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ABSTRACT

The document reports on a 3-year research project to measure the acquisition and generalization of teaching and child management behaviors by parents of preschool handicapped children enrolled in the Portage Project. Initial chapters describe treatments (which utilize the parent as the child's primary teacher in a home-based program) and first, second, and third year activities. In a final chapter it is noted that the changes in response recorded across behaviors at the point of intervention for each of six different parents served by six different home teachers argues strongly for the reliability and generality of effect of the parent training program. Subsequent chapters address the methodology and results of the multiple baseline study, reliability study, task probe study, and study of change in knowledge and attitudes. Appended materials include a copy of the Portage Project parental behavior inventory, sample forms, behavior code definitions, information on coding procedures, an evaluation form on teaching young children, and a parent attitude checklist. (SBH)

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FINAL REPORT

Acquisition and Generalization of Teaching and
Child Management Behaviors in Parents of
Preschool Handicapped Children:
A Comparative Study

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BEH Research Project
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Parent involvement and training has become an important component of many educational and therapeutic programs working with young children. Such involvement can no longer be considered a mere programmatic nicety, as recent evidence indicates that the child benefits in the acquisition, generalization, and maintenance of responses through involvement of the parent in the treatment program (Bronfenbrenner, 1974; Graziano, 1971; Johnson & Katz, 1973; Mash, Handy & Hamerlynck, 1976). While it might be easy to rationalize how parental involvement can benefit the child, little evidence is available on the effects of parental involvement or training on the parents. It is assumed that parents are benefiting directly from their efforts, particularly when one can see benefits accruing to the child. Yet, what are the skills parents are learning as a result of their involvement in their child's program? Are they merely providing extra practice in specific tasks for the child, essentially parroting the behavior of the child's teacher? Or, are the parents acquiring skills which they are able to use with new child responses or in different settings? If parents are acquiring specific teaching or child management skills, how are these skills acquired; through observation of the teacher, or through directed learning?

The above questions provided the impetus for the development of a research proposal to investigate the effects, on parents, of their involvement in a home-based preschool program serving handicapped children. The Portage Project (Shearer & Shearer, 1972) provides weekly visits by a home teacher who teaches the parents how to teach their child. The parent models the teaching behavior of the home teacher for each of the 2-4 prescribed tasks, and the home teacher provides reinforcing or corrective feedback.

It is the parents who then carry out the child's instructional program the rest of the week. Obviously, the question of what skills the parents are acquiring through their involvement becomes of paramount importance for those programs in which the parents serve as their child's primary teacher. If parents are acquiring teaching skills, then the likelihood is increased that they will use these skills for new responses, or in novel settings or situations; they are also more likely to use these skills with younger children in the family, thus serving a preventive function.

Funding provided by the Bureau of Education for the Handicapped during the three year period 1975-1978 allowed the Portage Project to investigate the effects of parental involvement in the acquisition, generalization, and maintenance of parental teaching and child management skills. In addition to assessing the effects of the Portage Model, a parent training program was developed and evaluated to determine whether a more systematic approach would enhance the effects in comparison to the Portage Model alone. The first two years of the research project, group comparisons were made between parents served in the Portage Model and the Parent Program treatments, as well as a non-treatment control group. The third year, single-subject research was conducted on a group of parents who were receiving the Parent Program, which consists of a systematic parent training component added onto the Portage Model of home teaching. Although this report primarily describes the results of the third year of the project, brief descriptions will be provided for each of the treatments as well as the salient results of the first two years of the project.

Description of Treatments

Portage Model

Families of preschool handicapped children included in this treatment received home-based educational services following the Portage Model of home teaching (Shearer & Shearer, 1972). The Portage Model utilizes the parent as the child's primary teacher. Home teachers visit each family on a weekly basis for 1 1/2 hours, and demonstrate to the parent appropriate presentation of prescribed activities to the child. The parent then models for the home teacher who can provide corrective or reinforcing feedback, thus shaping the parent's teaching and management skills. A developmental curriculum and checklist of skills (Portage Guide to Early Education, Revised Edition,, Bluma, Shearer, Frohman, & Hilliard, 1976) is used as the basis for instructional assessment and planning. Task analysis is used to break these terminal objectives into appropriate behavioral objectives that can be acquired within a one-week period of time. The specific weekly objectives are written on activity charts which contain directions for the parent in terms of presenting the activity to the child, and consequating and recording his responses. Between two and four prescriptions are left each week in one or more of the following developmental areas: infant stimulation, cognitive, social, language, motor, or self-help. For each prescription the home teacher first recorded the child's initial baseline performance level to determine the appropriateness of the behavioral objective. The home teacher then explained and modeled the teaching strategy. The parent demonstrated her understanding of what she was to do by then working with the child on each of the prescribed activities. Finally, the home teacher reviewed the activity and, if necessary, made suggestions regarding the parent's teaching techniques. The same sequence of steps was repeated for each prescription. During the

rest of the week the parent worked daily on the activities and recorded the child's responses on the activity charts. When the home teacher returned the following week, she took postbaseline to determine whether each activity had been acquired. If it had, the next sequential goal was prescribed; if not, the activity was modified to increase the likelihood of success.

As can be determined from the above description, the Portage Model of home teaching is a parent-mediated paradigm (cf Tharp & Wetzel, 1969) which relies heavily upon modeling, discussion, reinforcing or corrective feedback, and written activity charts to provide parents with the necessary structure to effectively instruct their own child. The responsibility for devising, writing, and evaluating the effectiveness of the instructional activities rests primarily with the home teacher, with the parent providing essential assessment and curricular information for the success of the child's program.

Parent Program

Families within this treatment received the Portage Model of home teaching as a programmatic base, and in addition were exposed to a systematic, data based parent training program designed to enhance the acquisition and generalization of parental teaching and child management skills.

Parent Program strategies were individualized to meet the unique needs of each parent-child dyad. The ultimate goal of intervention was to make each parent as functionally independent of the home teacher as possible, teaching the parent how to effectively instruct and manage their own child's behavior. Specific objectives were identified for change largely through the home

teacher's informal observation of the parent-child interaction during both teaching and non-teaching situations. Home teachers made use of a Parental Behavior Inventory (Boyd & Stauber, 1977; Appendix A), to rate the parent's baseline level along the array of behaviors listed. The inventory consists of over 80 items of parental antecedent or consequent events in both the teaching and child management domains. Within the first 4 or 5 weeks home teachers were able to informally rate parents on an initial sub-sample of the more important dimensions (e.g. reinforcement, correction, use of instructional aids, child management behaviors), with the provision that no one item be rated higher than the third quartile (51-75%) without an actual count being made. This initial informal baseline rating provided the home teachers with representative knowledge of the parent's strengths and weaknesses, as well as an indication of specific parent responses that could be targeted for change. Frequency counts were then made on specific behaviors selected, with the use of a simple coding sheet (Appendix B) to provide a formal baseline rate against which intervention results could later be compared. A plus-minus system is used for each of the twenty-five cells on the data sheet, so that the home teacher need only circle the appropriate symbol to count an instance of the defined behavior. Twenty-five cells were arbitrarily chosen as appropriate to provide a representative sample of even fairly high rate responses.

Home teachers were initially apprehensive regarding how the parents might respond to having their behavior recorded. In order to defuse this apprehension, and to desensitize the parents to the recording procedures, the home teachers asked the parents to record some aspect of the home teacher's behavior while the home teacher worked with the child. This strategy was effective in not only introducing the parent to the utility of recording specific responses, but it also sensitized the parent to attend to the behavior

of concern and further engendered a cooperative working relationship between the home teacher and parent as it related to the parent training component.

Once parents were comfortable with the coding procedures, formal baseline data could be coded by the home teacher on a specific response that the home teacher felt could be modified to improve the parent's skills. Parents also selected their own objectives, although strictly speaking true baseline in such a case was probably not obtained. A set of interactional strategies (Instructor's Manual: Portage Parent Program, Boyd, Stauber, & Bluma, 1977) was then utilized by the home teacher as intervention procedures. These strategies were typically initiated by praising some positive aspect of the parent's current repertoire and then specifying a particular response that if eliminated, modified, or acquired would enhance the parent's teaching and management skills, and thus the child's development and behavior. The remaining strategies were based on the techniques of modeling, prompting, recording, and providing reinforcing or corrective feedback. Additional suggestions were provided to home teachers as it related to the type of antecedent events they provided which were likely to evoke certain parental responses. Home teachers were to model correct responses for the parent and then have the parent model. Then, while the parent worked with her child on the prescribed activities (see Shearer & Shearer, 1972), the home teacher could provide immediate prompts or reinforcing feedback to the parent to evoke and maintain the appropriate response. If the parent continued to experience difficulty, the home teachers were instructed to intervene rather than allow the parent to practice incorrect behavior. The home teacher would then model as a correction procedure

for the parent and again have the parent model and resume teaching. Home teachers were not to usurp the parent's role as teacher by taking over the teaching of the child, unless it was absolutely necessary to maintain control over the situation.

As parents demonstrated proficiency with the targeted responses, new objectives were established and similar strategies initiated. As a procedure to ensure that previously mastered skills were maintained, occasionally the home teacher would announce that the parent had been working well with the recently targeted responses x, y and z, and that today she was going to record one of those appropriate responses, but she was not going to inform the parent which one she was going to code. This strategy served not only to reinforce the parent and introduce an element of fun, but it also helped the parent to integrate these responses, previously worked on singly, into her teaching style.

Finally, each parent was provided a set of Parent Readings (Boyd & Bluma, 1977) that described major topics and procedures in teaching and child management, in both the antecedent and consequent components of the Antecedent-Behavior-Consequent paradigm. Parents were asked to read select articles (e.g. How to Weaken Misbehavior, Aids to Use in Teaching) on an individualized basis, but the primary emphasis was placed on the readings as serving as a focus of discussion between parent and home teacher. Readability analysis (Fry, 1968) of a sample of articles indicated that the readings ranged in difficulty level between the 7th and 9th grades. Use was made of typical family situations, graphics, and Bil Keane's Family Circus cartoons to highlight and illustrate the main concepts and procedures in a true-to-life,

yet humorous fashion. The readings provided the parents with an informational base and rationale for the procedures they were learning. Depending upon the individual parent's strengths and weaknesses, similar interactional strategies were used to teach the parent instructional planning skills of task analysis, writing behavioral objectives and directions, selecting materials, devising recording systems, and obtaining baseline and postbaseline data.

Summary of First and Second Years

The primary objective for the first two years of the research project was to compare the relative effectiveness of two treatment programs, Portage Model and Parent Program, against a non-treatment control. The first, or pilot, year of the project was spent primarily in developing the coding system, training the observers, developing the parent training component and materials (Parent Program), training the home teachers, developing knowledge and attitude measures, collecting data, and resolving methodological and procedural difficulties. Results from the first year were clinically encouraging, but failed to yield meaningful statistical conclusions regarding program efficacy.

Most of the methodological and procedural difficulties were resolved by the beginning of the second year, and the Parent Program materials and strategies were sufficiently developed to enable the home teachers implementing this treatment to do so in an individualized, systematic fashion. Observational data was collected on parent behavior by the trained observers who would accompany the home teachers on every other home visit. Ten minutes of data was obtained during the time the parent was engaged in teaching her child the prescribed tasks. Attitudinal data was collected on a pre-posttest basis,

and a knowledge measure was administered on a posttest-only basis. In addition, probe visits were made on a periodic schedule to determine whether the parent was generalizing and maintaining acquired skills, demonstrating these in the absence of the home teacher during a teaching situation with her child. All measures were obtained on the two treatment groups - Portage Model (N = 16) and Parent Program (N = 18); and the probe observational data was obtained on the non-treatment control group (N = 7), consisting of preschool children determined not to have exceptional educational needs.

Results from the second year of the project indicated that both treatment groups, in comparison with the control group, exhibited significantly better performance at post-treatment along certain behaviors (i.e., percentage of child appropriate behavior, percentage of child incorrect responses corrected) and comparable performance at post-treatment on other responses in which the control group was initially superior (i.e., higher percentage effective parental aid, and lower percentage child inappropriate behavior). The Parent Program group differed significantly from the control group in exhibiting a higher percentage of parental reinforcement of appropriate child response. In addition, the Parent Program group exhibited significantly better performance in percentage of effective corrections and reduction in parental negatives, as compared to both Portage Model and control groups; the Parent Program group also rated themselves as being significantly more confident than the Portage Model group in their ability to teach and manage their children, and demonstrated significantly better performance in designing and writing an instructional activity. Data from the knowledge measure indicated better performance by the Parent Program group, but failed to reach statistical significance ($p < .10$).

The above results indicate that parental involvement through having parents serve as their child's teacher (Portage Model) produces positive change in parental teaching and management responses. The addition of a systematic, data-based parent training component (Parent Program) in which specific parental objectives are established and acquired, and in which the parent learns to assume much of the responsibility of the home teacher by the end of the year, adds to a proven model of intervention for preschool handicapped children.

While appreciable, if fairly modest, gains were noted in favor of the Parent Program it was felt that much of the power and flavor of the specific responses subjected to treatment were lost through use of a group design and the fairly global behavioral measures employed during the second year. For example, after a parent had learned to reinforce correct child response at a reasonably high level, the next objective might have been for the parent to learn to use enthusiastic verbal praise, or to pair verbal reinforcement (e.g. "good") with knowledge of correct results (e.g. "good, that one is red"). These refinements of the basic skill would not have been reflected in the group data collected even though the objectives were met. Additionally, while some group differences were noted between the Portage Model and Parent Program groups at postbaseline, it was still not clear whether the behavioral improvements noted for the Parent Program group were the result of specific interventions, or were the result of observational learning on the part of the parent modeling the behavior of home teachers who were more cognizant of (and therefore displayed) these behaviors (e.g. corrections and avoidance of negative feedback). For the above reasons, it was decided to conduct single-subject research, using multiple baseline designs, for the third year of the project.

Summary of Third Year Research Activities

Objectives for Third Year

Several interrelated goals were established as objectives of the research project for the third year. Programmatically, the most important objective was to train all of the home teachers in the Parent Program so that integration of the Parent Program and the Portage Model would take place with all the families served by the Portage Project. This decision was warranted on the basis of the formal data generated as a result of the first two years of the research, as well as anecdotal feedback received from home teachers and parents involved with the Parent Program. The primary research objectives centered around the use of single-subject designs to demonstrate the efficacy of Parent Program treatment and also the collection of reliability data to determine accuracy of home teacher recording of parent behavior. * Single-subject research was considered necessary to circumvent the limitations encountered with the group design approach, as noted above, and reliability data between a trained observer and the home teachers was essential to demonstrate that home teachers could independently and accurately collect parent intervention data while engaging in their other activities. Additional research and training activities were undertaken to provide information on the generalizability of parent training effects on the parents and of the Parent Program materials and procedures to other program settings and populations. The major research activities for the third year included:

1. Teacher Training and Program Implementation: All home teachers received pre-service and in-service training in the use of the Parental Behavior Inventory, data sheet, interactional parent training strategies, and Parent Readings. Two and one-half days of pre-service training was provided by the research staff to the Portage Project home teachers, consisting of 3 professionals and 8 para-professionals. All home teachers were experienced in the Portage Model of home

teaching, having completed between one to six years with the project. Four of these home teachers were experienced in use of the Parent Program, having implemented this treatment during the preceding two years. An intern employed by the project also participated in the training and research activities.

Each home teacher received a copy of the Parent Program materials. Background information and rationale behind development of the parent training component was presented, as well as the utility of viewing parent-child interaction as the unit of assessment and intervention. Detailed description of the antecedent and consequent behaviors listed on the Parental Behavior Inventory was provided as well as how the inventory was to be used. Use of the data sheet and various recording procedures were presented, supplemented by role playing and practice in selecting and recording parent behavior through use of videotaped sequences of home visits. Various interactional strategies between home teacher and parent were discussed, aided by role playing, videotapes, and readings from the Instructor's Manual. Finally, the planning and implementation of individualized interventions with parents, utilizing interactional strategies described in the manual and articles in the Parent Readings were discussed with the home teachers.

Additional in-service training was provided during weekly home teacher meetings. The research staff attended small group teacher meetings to assist with general staffing problems and related parent training activities. Videotape was used during large group teacher meetings to provide additional practice recording parent behaviors and to provide simulated examples of effective parental intervention strategies.

2. Multiple Baseline Evaluation of Parent Training Strategies: Multiple baseline data was collected on a sample of families by a trained observer to assess the effects of a series of systematic interventions upon parental teaching and child management skills.
3. Reliability Checks: A trained observer accompanied home teachers on a sample of home visits to determine the accuracy of home teachers independently recording parent behavior. Method and results for this activity will also be presented under a separate section of the report.
4. Task Probe Assessment of Generalization of Training: Generalization of parent training effects to non-structured task probe teaching situations were assessed by trained observers, utilizing an observational coding system to measure the parent-child interaction. This research activity will be detailed later in the report.

Research Population

Subjects for the various research activities were selected from the approximately 125 families receiving preschool educational services from the Portage Project during the 1977-78 school year. The selection criterion for consideration for the Portage Project was that the referred child (birth - 6 years) exhibited at least a one year lag between chronological and functional age in one or more areas of development (i.e., physical, academic, communication, social, self-help) as measured by the Alpern-Boll Developmental Profile (Alpern-Boll, 1972). The local school district multidisciplinary team meets to discuss each child referred, taking into account the data from the Alpern-Boll and various diagnostic instruments administered to the child. If the multidisciplinary team identifies the child as exhibiting exceptional educational needs, he is enrolled and served

by the Portage Project. Families who subsequently volunteered to participate in the research will be described under the respective studies.

Multiple Baseline Study: Method

Subjects and Setting

Six mother-child dyads enrolled in the early education project were selected from the caseloads of six home teachers. The children were evenly divided as to sex, and ranged in age between three years, one month to four years, ten months at the beginning of intervention. All children exhibited developmental delays of unspecified origin in one or more areas of cognitive, motor, and language functioning; two of the children were further considered to be behavior problems. One mother was a single parent who was receiving welfare; the other mothers had spouses and were from lower-middle to middle income brackets. All mothers had completed high school, except one who had dropped out of school after the tenth grade.

All intervention was carried out in each parent's home during weekly 1½ hour visits. The dining-room or kitchen table was generally the locus for most activities, although this varied by the nature of the task. Instructional materials were often provided by the home teacher, as well as employing objects from within the home environment for instructional purposes.

Parent Training Procedures

Home teachers selected the parent responses for change in conjunction with discussion with the research staff. Little restriction was imposed upon the home teachers other than ensuring the targets could be readily defined and observed, and that they be, on an a priori basis, independent

of one another. Parent training was typically initiated by praising some positive aspect of the parent's repertoire and then specifying the initial response selected for change. Home teachers would then model examples of the appropriate response, and, if needed, inappropriate response for the parent. A discussion would then ensue as to the importance and rationale of the target response, and its potential effect upon the child. The parent was then allowed the opportunity to practice the response while working with her child, and the home teacher would provide reinforcing or corrective feedback. A brief summation was presented by the home teacher at the conclusion of the visit and, when appropriate, the parent was encouraged to read material from the set of Parent Readings. Emphasis was placed, however, upon relating this written material back to the specific parent-child interaction, and the responses selected for change. Variation in the above outline occurred in relation to specific problems or behaviors, and these are discussed under presentation of each case.

Observer Training and Reliability Checks

Data was collected by two observers, who had been employed in this capacity during the previous one to two years of the research project. The observers received both pre-service and in-service training in the use of multiple baseline coding procedures. Video-taped segments of parent-child interactions were used to practice coding the frequency of occurrence of multiple parent behaviors on special data sheets (Appendix C). For each targeted parent behavior, the occurrence of "positive" (+) and "negative" (-) instances were recorded by circling the appropriate symbol on the coding grids. Percentage of appropriate parental response was calculated

by dividing the frequency of the positive instances by the total number of responses for each target behavior. A wide variety of behaviors as selected for coding practice in order to enhance the observer's ability to unambiguously define and code parental behaviors. In general, behavior definitions and coding procedures established during the first two years of the project were adhered to (See Appendices D & E).

Fourteen periodic reliability checks were made by a calibrating observer (research assistant). During each session, three behaviors were simultaneously coded and a per-session reliability score was calculated by dividing the number of agreements on the occurrence of positive and negative instances of the targeted behaviors by the total number of agreements and disagreements.

Data Collection

Observational data was collected by the observers during regularly scheduled home visits throughout all phases of the multiple baseline study. Following the logic of the multiple baseline design (Baer, Wolf & Risley, 1968; Hersen & Barlow, 1976), three sessions of baseline data were collected over a three to five week period. These data were reviewed by the individual home teacher and research staff, and the sequence of interventions was determined. The home teacher proceeded to intervene with the first response, while the other responses were maintained under baseline conditions. After the first behavior changed to a facilitating level, intervention was implemented with a second response, and so forth. Data was collected at bi-weekly intervals, although more frequent observations were made to meet the needs of the home teacher or the requirements of the experimental design.

Multiple Baseline Study: Results and Discussion

Reliability Estimates

Mean observer reliability for multiple baseline coding across the 14 reliability checks was 84% (Range: 75 -90%). It should be noted that for infrequent parental behaviors which occurred fewer than 6 times during a session, low reliability was produced by relatively small differences in scored frequencies.

Case 1: Mrs. W.

For all parents, the figures show the percentages of appropriate response across sessions and conditions. Appropriate and inappropriate responses were defined next to the "+" and "-" sections of the data sheet respectively (See Appendix C) for each response. Percentage of appropriate response was calculated by dividing appropriate responses by appropriate plus inappropriate for each response per session.

Figure 1 shows the results obtained for Mrs. W. across the three responses selected for change: 1) gives command, 2) ignores minor misbehavior, and 3) pairs knowledge of correct results (KCR) with verbal reinforcer. Mrs. W. had difficulty controlling her daughter's behavior during both the structured teaching situation and during the more informal moments as well. Observations made by the home teacher suggested that the child's misbehavior may have been prompted by Mrs. W. issuing requests instead of commands as an antecedent, and maintained by Mrs. W.'s attention to the misbehavior as a consequent. The home teacher selected gives command instead of request as one objective, and ignores minor misbehavior as the second objective to help the mother bring her child's behavior under better control. In

Percentage Of Appropriate Response

Gives Command

Ignores Minor Misbehavior

Pairs KCR With Praise

Baseline

Parent Training

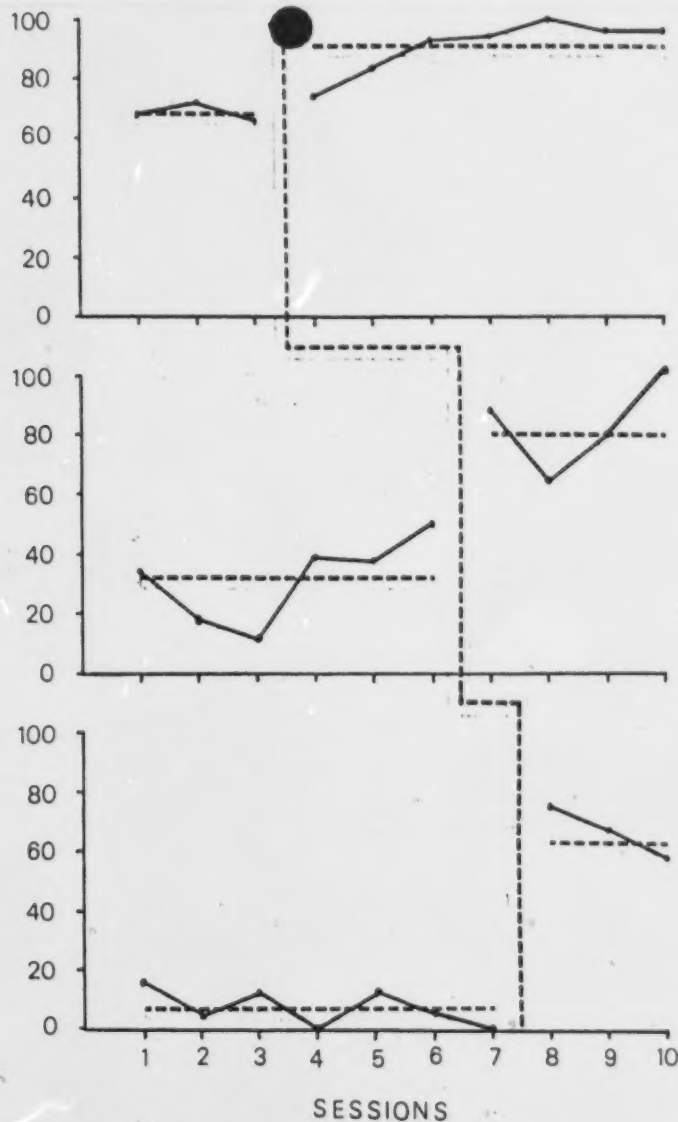


Figure 1 - Percentage of appropriate response for Mrs. W. across sessions and behaviors.

addition, the home teacher selected pairs KCR with verbal praise as the final target as the mother reinforced with praise but infrequently paired the two. Providing KCR along with verbal praise was thought potentially important in facilitating the child's language development, serving as a form of expansion.

Baseline data for each response revealed mean percentages of 68%, 32%, and 7% respectively. Mean percentages of appropriate responses increased markedly as the result of parent training: 91%, 80%, and 63%. As Figure 1 shows, dramatic increases in the level of response upon initiation of intervention occurred for the two consequent behaviors, ignores minor misbehavior and pairs KCR with verbal reinforcer. Only a slight increase in level was noted for the antecedent response, gives command although the response shows steady improvement during intervention. Mrs. W. was quite responsive to the home teacher's suggestions, typically exhibiting better performance upon the home teacher's suggestion that change in a response would be helpful. The abrupt elevations in level for the consequent responses would corroborate this impression. The fact that a similar, immediate increase in level for the antecedent response, gives command, did not occur may be related to the stimulus value of child response. Thus, the child's behavior would serve to cue the mother to engage in the appropriate consequent events under treatment, but no child response would ostensibly be available to prompt the mother to exhibit the appropriate antecedent event, gives command. Thus, a more gradual acceleration took place with the antecedent response, although it eventually reached a high, stable level.

While an abrupt change in level was noted for ignores minor misbehavior, careful scrutiny suggests a decelerating-accelerating baseline with the

acceleration phase corresponding to the initiation of intervention with the first response, gives command. Whether this is indicative of behavioral covariation or merely chance fluctuation remains problematic. The fact that the trend for the acceleration part of baseline is congruent with the trend observed during intervention may further attenuate the attribution of a treatment effect for this response; intervention may have merely accelerated the direction of change.

Although data was not collected on the child's response to these parental changes, both the home teacher and the observer noted that child misbehavior decelerated, particularly in response to ignoring minor misbehavior. Other family members reportedly started to use this technique as well, which, considering the negative nature of most of this family's interaction, was an important side effect.

Case 2: Mrs. B.

Figure 2 shows the percentage of appropriate response across conditions for Mrs. B., the mother of the second child to exhibit rather severe behavior problems. As the observer noted:

"When I first began observing, mom had little control over the materials or teaching situation. (The child) was misbehaving almost constantly. This included grabbing at materials, pushing away from the table, standing up in her chair, laughing, repetition of a single word, lying on the table, thrusting back in her chair, turning away from the task, hitting, spitting, etc. Mom was attending to this misbehavior about 85% of the time. Much of the mother's attention to misbehavior took the form of repetition of command, or negative feedback."

Percentage of Appropriate Response

Gives Command

Ignores Minor Misbehavior

Follows Through With Original Command

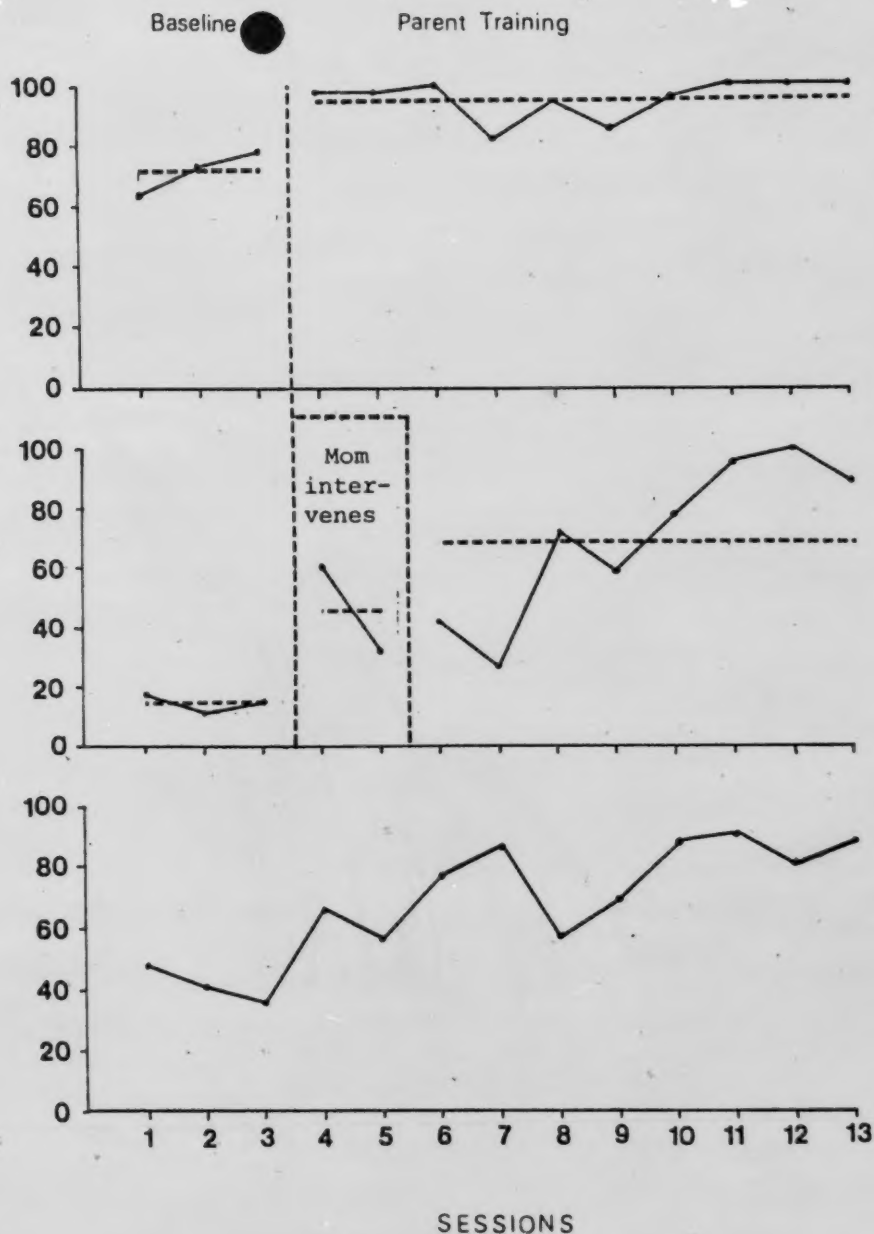


Figure 2 - Percentage of appropriate response for Mrs. B. across sessions and behaviors.

Because misbehavior was the primary target and interfered with instruction on developmental skills, all three parental objectives centered on helping the mother establish control over her child's behavior. One antecedent event, gives command instead of request, and two consequent events, ignores minor misbehavior and follows through with original command, were selected for change. It was thought by the home teacher that Mrs. B. often prompted child misbehavior due to her habit of making requests of her daughter when compliance was expected. The child sometimes refused the request, with negative parental response and child misbehavior resulting. Gives command was the first response treated.

As Figure 2 shows, mean percentage of gives command was 71% at baseline. An abrupt change in level was noted upon initiation of intervention, with the response maintaining a high, stable level (mean percentage of 95%) during intervention with all intervention data points above baseline points. Interestingly, during the first baseline session the observer noted that the parent tended to give more requests during the unstructured moments of the home visit as opposed to the task related moments. Subsequently, data was taken separately on gives commands for each of these situations to see whether any treatment effect would generalize from the task related condition (i.e., treatment) to the unstructured, non-task related condition. These data are presented in Table 1.

As can be seen in the table, the percentage of gives command during the non-task situation lagged behind that noted for the task situation within home visits. Improvement is noted in the non-task situation, correlated with the improvement in the task situation. However, the

TABLE 1

Percentage Gives Command Across Task and Non-Task Related Conditions

Session	% Task	% Non-Task	Session	% Task	% Non-Task
1	78	48	8	100	80
2	76	65	9	88	75
3	83	64	10	100	75
4	100	83	11	100	100
5	100	86	12	100	100
6	100	100	13	100	100
7	75	100			

lag in response is generally evident until the last three sessions where congruence between situations is noted. These data highlight the importance of assessing the generalization of treatment effects, as improvement may be evident during the structured task situations but may not generalize to the non-task moments. If the results do not generalize to the more naturalistic routines of the parent-child interaction, the treatment effects may be ephemeral or severely restricted. Fortunately, in this case, the effect appears to have generalized.

The second response selected for change, ignores minor misbehavior, shows a low, stable rate during baseline. At about the same point in time that intervention was begun with the first response, gives command, Mrs. B. read, without any prompting by the home teacher, the articles on How To Weaken Misbehavior and Time Out in the set of Parent Readings. Unbeknown to the home teacher, the mother initiated ignoring her child's minor misbehavior, with obvious success as noted by the 60% appropriate response during session 4 as compared to the mean percentage of 15% during the baseline phase; the home teacher was astounded. A drop in the percentage

of ignores misbehavior occurred in session 5, however, to 31% suggesting a return to baseline. At this point it was decided that because of time constraints the home teacher would formally intervene, although in retrospect it would have been interesting to see whether the response would have returned to baseline without the home teacher's formal intervention. Results of the intervention by the home teacher indicate a marked improvement, with a mean percentage of 68% noted for this phase, with definite improvements in both level and trend as compared to the baseline phase.

No formal intervention was initiated with the third response, follows through with original command, as this response was steadily improving from the fourth session until the end of the school year. While it was originally believed that this response was independent of the other two targets, it is interesting to note the change in level and trend starting with session 4 as compared to the first three sessions. Perhaps the last response was correlated with the first response, gives command, since contemporaneous change is noted for each response at the time intervention was initiated for the first response, gives command. A possible explanation might be that initiation of treatment for gives command may have sensitized the mother to her behavior in terms of commands, including following through with the commands she gives the child. An alternative explanation might be that a change is evident due to the mother having read the article How To Weaken Misbehavior, which briefly discusses the importance of following through with commands. Because response change is correlated in time with formal intervention for the first response and informal intervention (i.e., parent reading the article) on the second response, it is impossible to determine

whether the effect is due to behavioral covariation, treatment, or some unknown extraneous factor (See Kazdin & Kopel, 1975).

Obvious improvement in child behavior occurred over time as the parent acquired these more appropriate management techniques. Anecdotal feedback from home teacher, observer, and mother indicated pronounced decrements in both the intensity and frequency of the child's misbehavior, with a subsequent acceleration in acquisition of developmental skills as the child became more amenable to instruction.

While the above two cases demonstrate the efficacy of the parent training intervention, in each case all data points were obtained while the home teacher was in the home. It is entirely possible that each mother may have increased her level of responding along certain behaviors as a function of the home teacher's modeling appropriate teaching behavior, particularly since baseline data was obtained approximately 8 weeks after the home teachers had begun their visits. In the next four cases, each of the mother-child dyads were involved in another aspect of the investigation, task probe study to be discussed below, in which mothers were asked to teach their child some task in the absence of the home teacher. Three such sessions took place prior to the home teacher making her first visit, three sessions took place during the middle of the year, and three sessions took place after the completion of intervention. These probe sessions thus provide a measure of pre-intervention responding (i.e., considering the possibility of the home teacher's model alone serving as an occasion for observational learning) for the first three probes, and as a measure of generalization for the remaining probes. These probe sessions are indicated by the symbol ▲ in the succeeding figures. While there is not a one-to-one correspondence

between the data collected in the task probe sessions and the multiple baseline sessions, comparable data was collected on between one and three responses for each of the cases discussed below.

Case 3: Mrs. R.

Figure 3 presents the data obtained across sessions and conditions for the three targets selected for Mrs. R.. This mother demonstrated many good teaching and management skills upon informal assessment by the home teacher during the initial weeks of visits. The mother had no difficulty controlling the behavior of her child, presented good instructional aids, corrected her child's incorrect responses, provided enthusiastic although fairly infrequent verbal reinforcement, and was generally a patient and encouraging teacher. Objectives selected for this mother were increasing the percentage of time she provided verbal reinforcement, avoiding the use of negatives in correction (e.g., "No, that's not red. Here's the red one."), and pairing KCR with verbal reinforcement.

Both the pre-intervention probe and the baseline data indicated a moderate level of verbal reinforcement was being provided by Mrs. R. for correct child response. An abrupt change in level was noted upon initiation of parent training, with a stable increase noted until the end of intervention. Post intervention probe data suggested that the mother was maintaining her acquired high level of providing verbal reinforcement, and the two probe points taken after initiation of intervention correspond quite well with the data taken while the home teacher was present, suggesting good generalization.

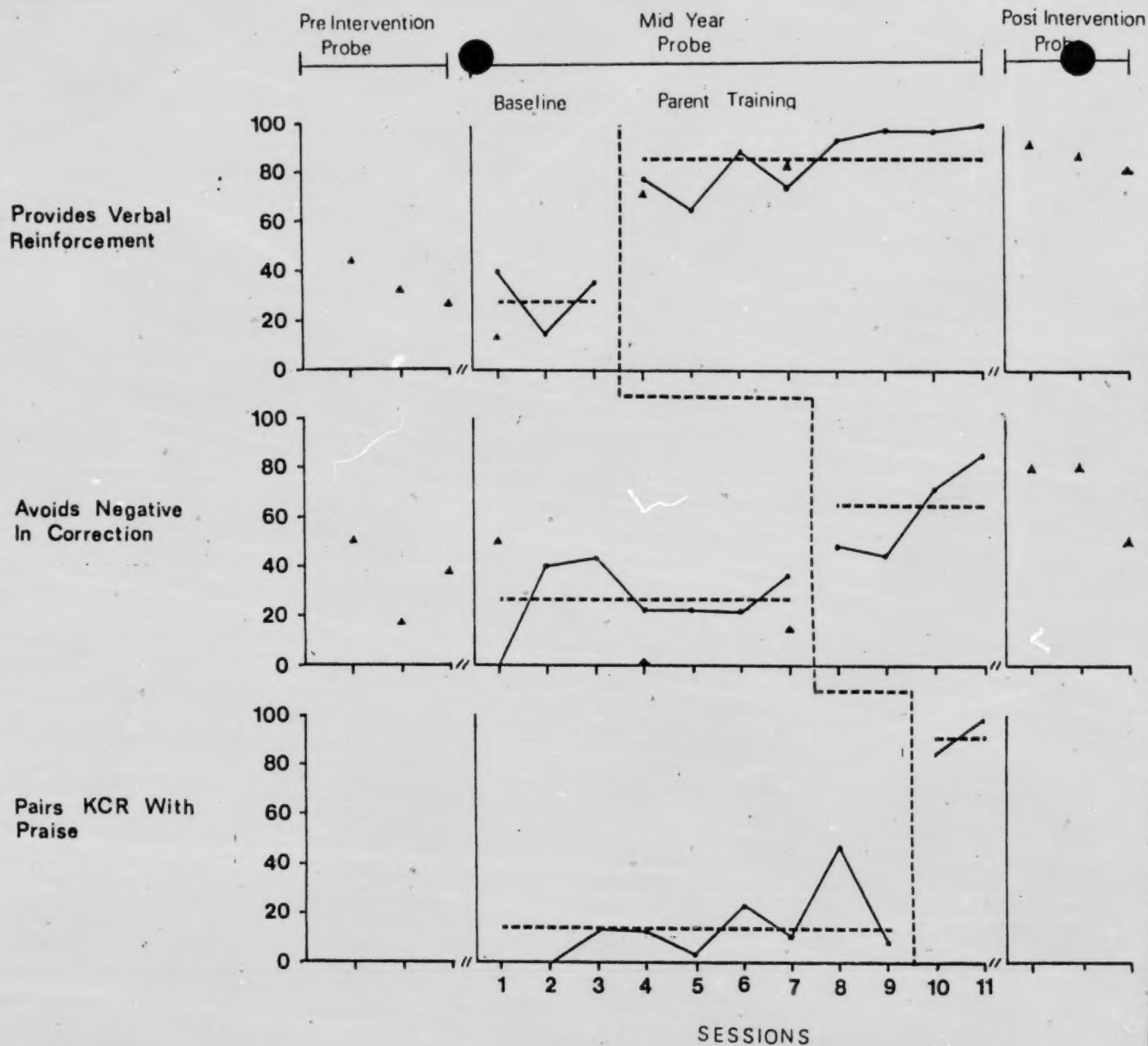


Figure 3 - Percentage of appropriate response for Mrs. R. across sessions and behaviors.

The second response, avoids negative in correction, also increased as a function of intervention, with a mean percentage of 65% during intervention as compared to a mean of 27% during the baseline phase. The probe data points generally correspond to the measures obtained while the home teacher was present; the post-intervention probe data indicate good maintenance of the response after termination of home visits.

On the final response, pairs KCR with verbal reinforcement, only two data points were obtained after intervention, before the program year ended. While a minimum of three points is considered desirable (Hersen & Barlow, 1976), the obtained intervention data strongly suggests efficacy of treatment for this response as well. No probe data was collected on this response, due to the nature of the data collected for the task probe situation. Additionally, it should be noted that there was no overlap of data points between baseline and intervention phases for any of the three responses selected for intervention, again suggesting efficacy of treatment. Finally, pre-intervention and mid-year probe data would suggest that no observational learning was occurring during baseline as a result of the home teacher modeling appropriate teaching behavior prior to formal intervention. Improvement in these responses only occurred as a result of the home teacher's formal intervention.

Case 4: Mrs. P.

Similar results were obtained on the responses selected for change for Mrs. P. as indicated in Figure 4. Before the initiation of treatment, Mrs. P. was noted to provide very few instructional aids (mean of 10% for the three pre-intervention task probe sessions), reinforcement for correct response (11%), correction for incorrect response (7%),

Percentage Of Appropriate Response

Avoids Negative In Correction

Provides Verbal Reinforcement

Pairs KCR With Praise

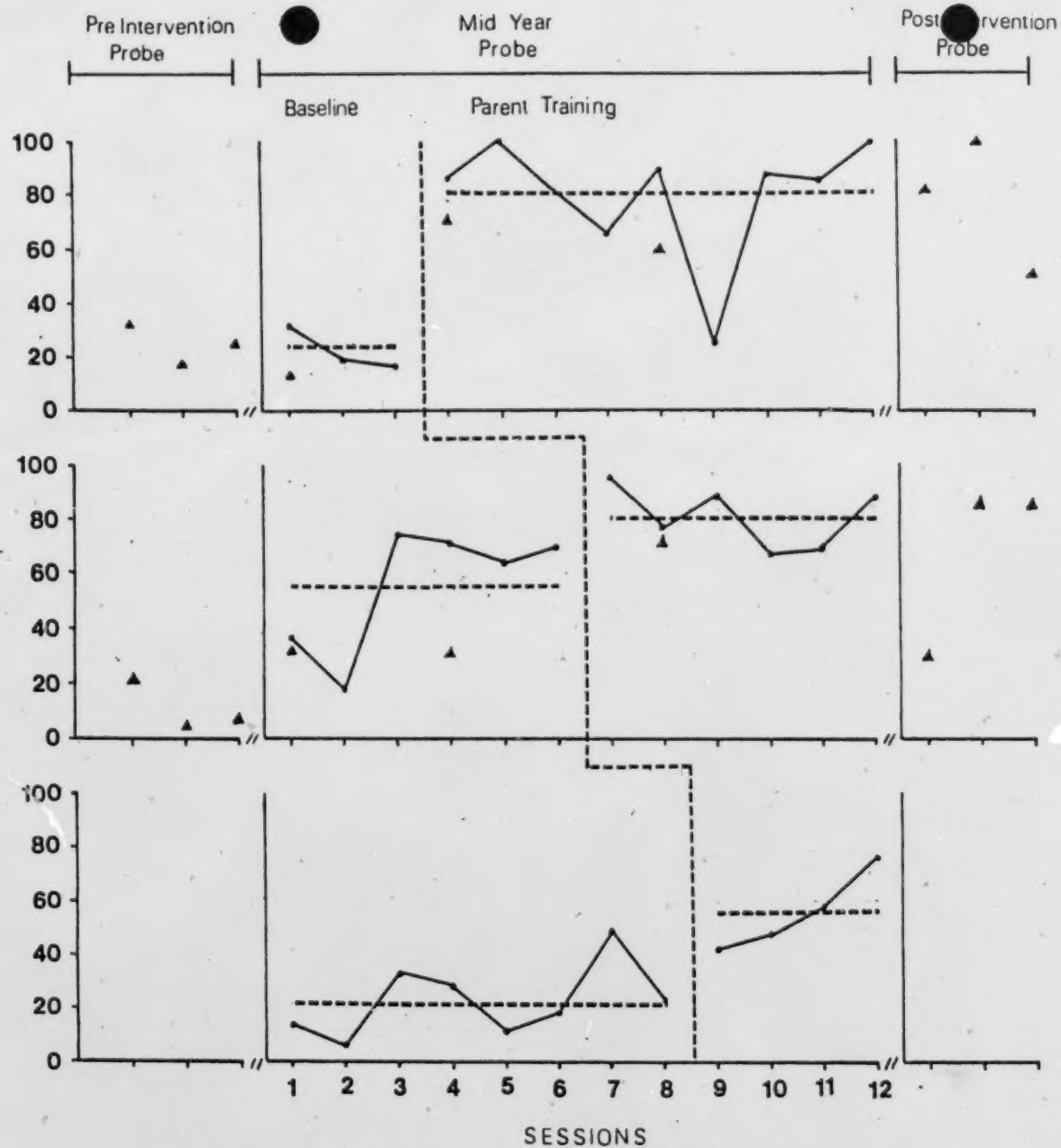


Figure 4 - Percentage of appropriate response for Mrs. P. across sessions and behaviors.

was highly negative in response to incorrect child response (75%). Mrs. P. would often simply present the instructional materials to her child with a vague command such as "Do this" or "Take it apart" rather than giving some form of aid as an antecedent. Coupled with a low level of reinforcement and a high level of negative feedback, the teaching sessions were frustrating to the child who averaged 11% inappropriate behavior across the three pre-intervention task probe sessions. Post-intervention task probe data indicated marked improvement along these important teaching behaviors, with the mother providing a mean of 41% instructional aids, 67% reinforcement, for correct response, 71% correction for incorrect response, and only 21% negative feedback for incorrect response; the child demonstrated no inappropriate behavior during the three post-intervention task probe sessions.

The three responses selected by the home teacher for the multiple baseline study were avoids negative in correction, provides verbal reinforcement, and pairs KCR with verbal reinforcement. Figure 4 shows that there was an immediate and sustained treatment effect for avoids negative in correction, improving from a baseline mean of 25% to a mean of 81% during the intervention phase. Post-intervention probe data suggests that the response was being maintained. Furthermore, the congruity between the pre-intervention sessions and the baseline sessions would suggest that this response was not improving solely as a result of the home teacher's modeling appropriate teaching behavior prior to the initiation of formal intervention. The same argument cannot be made with the second response, provides verbal reinforcement, as the data taken during the baseline phase indicates that the response is improving, particularly in comparison to the pre-intervention probe data. It can thus be argued

that observational learning was taking place with this response as a result of the home teacher's model. Formal intervention appears to have slightly boosted the response, but it is probable that the level obtained during intervention might have ultimately been reached without treatment. Again, post-intervention data suggests that the response was being maintained.

The final response, pairs KCR with verbal reinforcement, had a mean of 22% during the baseline phase. Intervention data shows an accelerating treatment effect, with an average of 55% appropriate response across the four sessions. Anecdotal feedback from the observer suggested that pairing KCR with verbal praise helped Mrs. R.'s son with his speech and language development, serving as a model for appropriate verbal response. The observer also noted that the mother's verbal reinforcement improved not only in frequency and pairing, but also became more varied, from use of only "good" to such exclamations as "Bull's eye", "You did it", "You made it", and "It fits".

Case 5: Mrs. K.

Figure 5 presents the data obtained across sessions and conditions for Mrs. K., a mother who possessed many good teaching skills prior to involvement with the project. Pre-intervention probe data indicated that she provided a correction for 81% of the child's incorrect responses, gave negative feedback only 13% of the time, provided instructional aids a mean of 29%, and reinforced correct response 41% of the time. Because of her good control over the teaching situation, her child engaged in inappropriate behavior less than 1% during pre-intervention probe sessions. Post-intervention mean percentages for the above responses were 94%

Percentage Of Appropriate Response

Prompts Practice After Correction

Reinforces Correct Response

Gives Command

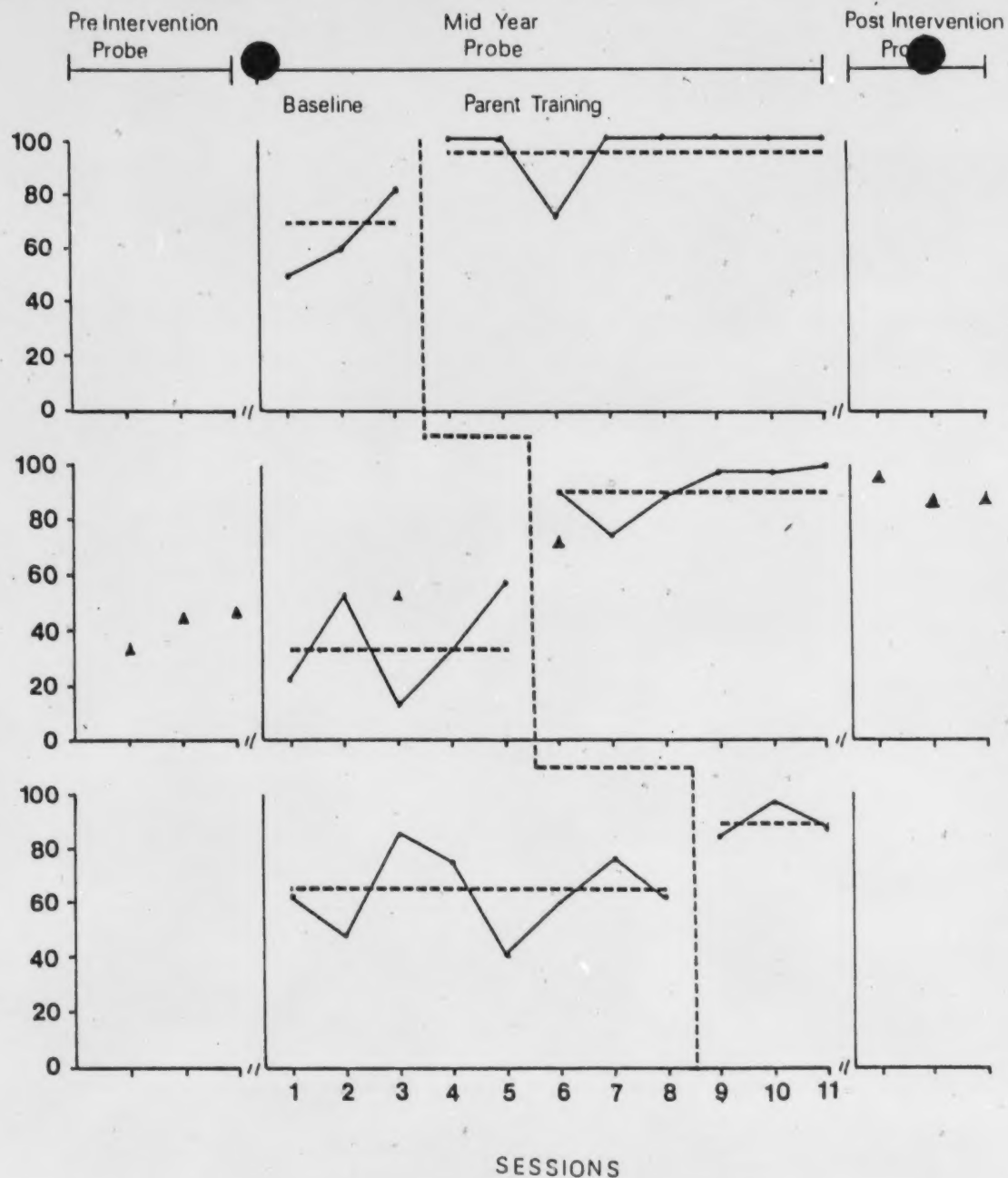


Figure 5 - Percentage of appropriate response for Mrs. K. across sessions and behaviors.

corrections, 12% negative feedback, 40% instructional aid, 92% reinforcement, and 0% child inappropriate response.

Responses selected for change for the multiple baseline study included 1) prompting the child to repeat the correct response after a correction, 2) reinforcing correct response, and 3) gives command instead of request. The first two responses were selected on the basis of the belief they would, if increased, help accelerate the child's learning. The child needed a high level of reinforcement for attention and task completion, becoming slightly frustrated and balky if not reinforced. Prompting practice of incorrect response was felt needed to accelerate acquisition of the child's learning. The third response, gives command instead of request, was felt important as the mother frequently used requests instead of commands when she expected compliance. This occurred seldom during the teaching activities, but was a fairly common problem during the non-structured periods of the home visit, prompting some child non-compliance.

Figure 5 shows an accelerating baseline for the first response, prompts practice after correction. The mean percentage of appropriate response was 70% during the baseline, and increased to 96% during intervention, indicating improvement as a result of treatment. In addition, little variability in response was noted during intervention, with only one session deviating from perfect performance. Unfortunately, the accelerating baseline mitigates the argument for treatment effect as the response may have been improving on the basis of observational learning alone, with intervention merely accelerating the process.

The second response selected for change, reinforces correct response showed a mean percentage of 90% during the intervention phase as compared to a baseline mean of 34%. An abrupt change in level was noted for this response, there is no overlap in the data points across phases, and the response demonstrates marked stability toward the end of intervention. Additionally, the post-intervention probe data available for this response strongly suggests maintenance of effect. The congruity between probe data and multiple baseline data across the pre-intervention and baseline phases also suggests that the response, for this mother, was not responsive to the home teacher's model alone and showed improvement only as a result of formal intervention.

Finally, a treatment effect is also noted for the third response, gives command instead of request. A mean percentage of 89% was noted during intervention, in comparison to a mean percentage of 65% during baseline. Anecdotal feedback from the observer suggested that greater compliance was noted for the child during the non-structured moments of the home visits as a result of the mother's learning to issue commands instead of requests when compliance was expected. Additionally, the observer noted that verbal reinforcement improved not only in frequency of occurrence, but in variety and enthusiasm as well.

Case 6: Mrs. S.

Results for the last case, Mrs. S., are presented in Figure 6. This mother exhibited appreciably little appropriate teaching behavior during the pre-intervention task probe sessions. Instructional antecedents were provided to the child only 9% of the time, with corrections at 4%, reinforcement at 0%, and negative feedback at 72%. The mother appeared

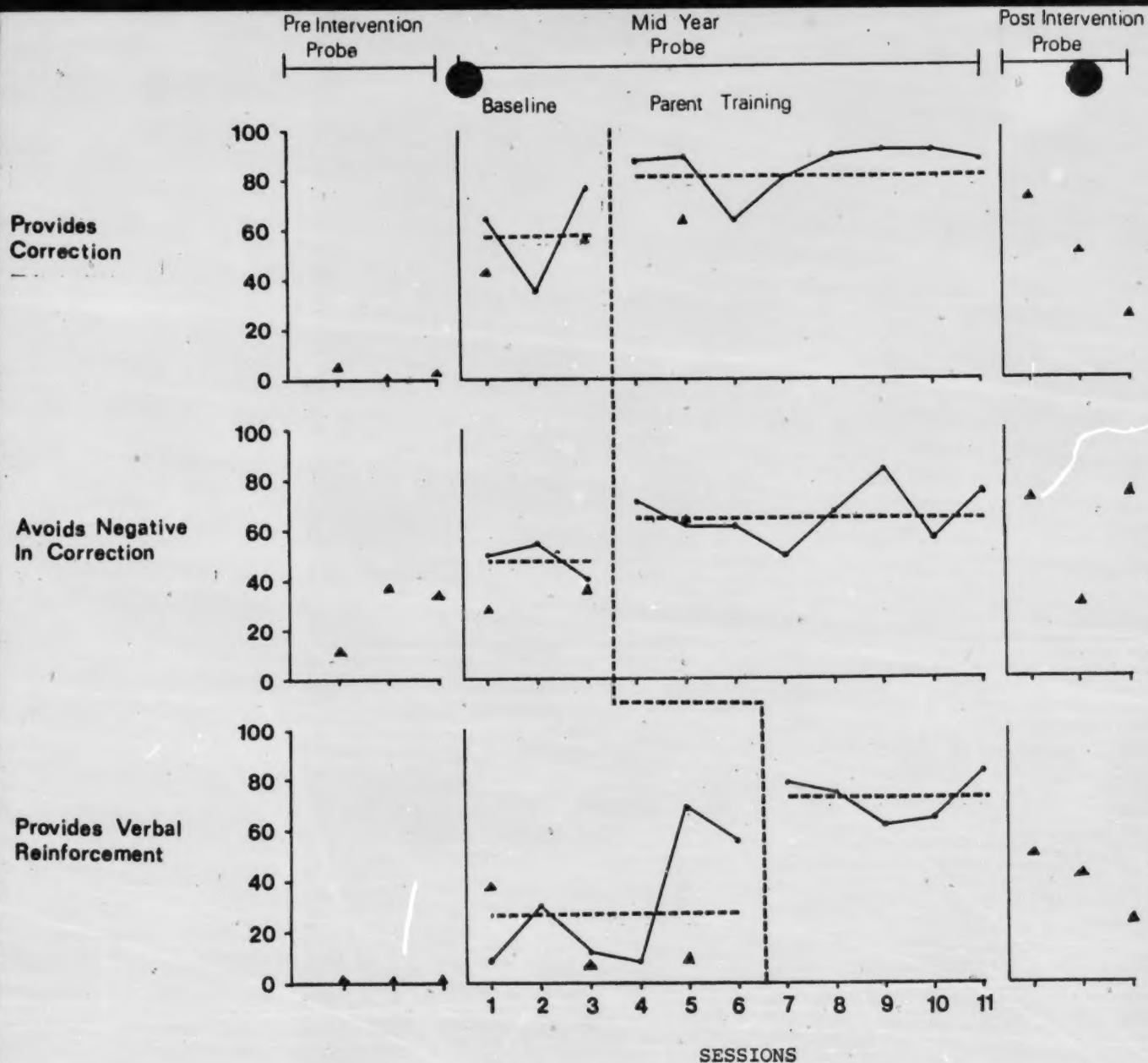


Figure 6 - Percentage of appropriate response for Mrs. S. across sessions and behaviors.

unable to present teaching activities or materials to her child in a facilitating fashion, or to use materials in novel ways to teach new responses. Despite the poor instructional antecedents, the lack of reinforcement, and high dosage of negative feedback to incorrect response, the child surprisingly demonstrated no inappropriate behavior during the pre-intervention task probe sessions.

The three responses selected for change were provides correction, avoids negative in correction, and provides verbal reinforcement. Baseline data collected on these responses suggests that, in comparison to pre-intervention probe data, at least two responses (provides correction and reinforcement) were improving as a function of observational learning. No verbal reinforcement was provided by the mother during the pre-intervention task probe sessions; however, during the baseline phase some reinforcement was evident, particularly during sessions 5 and 6 where a marked increase occurred. A similar pattern occurred for provides correction, suggesting that the mother was improving along these two responses as a result of the home teachers modeling appropriate teaching behavior prior to formal intervention.

Intervention was initiated with the first two responses simultaneously as the home teacher considered it important to discuss all aspects of appropriate correction procedures at one time with this mother rather than in piecemeal fashion. The mean percentage during intervention for provides correction was 80% as compared to a mean of 57% during baseline. Only one data point overlaps between phases, and greater stability in the response is noted especially during the last four sessions of intervention. Unfortunately, however, the post-intervention probe data

strongly suggests that the intervention effect is ephemeral. A rather steep monotonic drop is evident for the three post-intervention probe sessions, suggesting that the response is returning to a pre-intervention level.

For the response avoids negative in correction, mean percentage was 65% during intervention as compared to 48% during baseline, with only one data point noted to overlap between phases. Post-intervention probe session data suggests that the intervention effect may be more durable for this response than either of the other two responses.

Finally, mean percentage during intervention for provides verbal reinforcement was 73% as compared to a mean of 27% during baseline and 0% during the three pre-intervention probe sessions. As noted above, however, some increase in this response was noted during the baseline phase, particularly during sessions 5 and 6, suggesting an observational learning effect. Intervention appears to have further increased the effect, but the post-intervention probe data indicates a return to baseline or pre-intervention levels. Thus, while the post-intervention task probe data are generally more encouraging than the pre-intervention probe data, the linear drop in two of three responses selected for the multiple baseline phase would strongly suggest that the mother's improvement in her teaching behavior is not durable, with improvement being a function of the cueing effect of the home teacher's behavior. Anecdotal feedback from the observer indicated a regression in the child's speech and language during the post-intervention probe sessions, in addition to the decrements noted in the mother's responding. The congruence between these events is highly suggestive of the effect the mother's behavior

had on the child's behavior, as well as highlighting the need, for this parent, for additional strategies that would sustain the acquisition of response.

Reliability Study: Method

Subjects and Setting

Fourteen home teachers participated in a study to determine the reliability of their independent recording of parental behavior. Reliability data was collected during regular home visits, with an observer accompanying each home teacher on from one to four home visits.

Procedure

Home teachers participated in both pre-service and in-service training on the recording procedures to be used in planning, monitoring and evaluating their intervention with parents. Each home teacher selected a family to be observed as well as the parent response upon which reliability data were to be collected. Prior to a reliability visit, the observer and teacher met to jointly define the appropriate and inappropriate instances of the behavior(s) to be recorded on the individual data sheets (see Appendix B). Subsequently during the home visit, both the home teacher and observer independently recorded instances of the specified parental response as the parent worked with the child on prescribed activities. Recording was terminated either upon completion of one 25-celled data sheet or at the end of the instructional session.

The two observers who carried out the reliability checks had been responsible for data collection during the 1976-77 research activities and had been thoroughly trained in behavioral observation techniques. The observers received additional in-service training on the recording procedures to be followed during reliability checks. Observer training in simultaneously

coding the frequency of occurrence of three to four parent behaviors was described under the Multiple Baseline Study. Coding procedures for the Reliability Study were similar, but coding was done on a single parent behavior instead of on multiple behaviors.

Results and Discussion

Twenty-seven separate reliability checks were obtained, representing between one and four checks for each of the 14 home teachers. Table 2 lists the parental responses which were recorded as well as the frequency each response was included in the reliability estimates.

For each check, reliability was calculated by dividing the smaller observed frequency by the larger observed frequency of occurrence for the (1) appropriate behavior, (2) inappropriate behavior, and (3) combined appropriate and inappropriate behaviors (i.e., session reliability). Mean percentage of agreement across sessions was 83% (range: 0-100%) for appropriate behaviors and 86% (range: 50-100%) for inappropriate behaviors. Mean per session agreement across all behavior was 84.5% (range: 44-100%). It should be noted that session agreement was less than 70% during only two of the 26 reliability checks. Instances of low agreement were due to definitional problems. For example, the lowest per session agreement, 44%, arose out of the confusion of instructional aid which was provided to evoke a correct child response with corrective aid which followed an incorrect child response. The topography of instructional aid as an antecedent and corrective aid as a consequent event is essentially similar, with the sequence of response being the relevant defining characteristic. Because of the definitional problems associated with instructional aid vs. corrective aid, low reliability estimates were obtained whenever corrections were being assessed.

Table 2

Behaviors Recorded During Reliability Checks

Parent Behaviors	Number of Occassions Recorded
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Antecedents:

Gives brief (3 word) command	1
Gives command, not request	3
Provides physical or visual aid to initiate response	1

Consequents:

Follows through with original command	1
Provides verbal reinforcer	8
Pairs knowledge of correct results with verbal reinforcer	1
Provides consistent reinforcement for new instructional activities	2
Provides intermittent reinforcement for acquired tasks	2
Provides correction if child responds incorrectly	2
Has child practice correct response after correction	2
Avoids use of negative in correction	3
Ignores minor misbehavior	1

Despite the definitional problems noted above, the mean reliability estimates obtained across behaviors and sessions strongly supports the contention that home teachers working with developmentally delayed children and their parent(s) can reliably record parental response during their home visits. Anecdotal feedback further indicated that the reliability

checks not only sensitized the home teachers to the importance of operationally defining parental behavior, but also enhanced their confidence in their ability to accurately record parent response.

Task Probe Study: Method

Subjects and Setting

Fifteen CESA 12 families were randomly selected by the research staff at the beginning of the school year to participate in the Parent Program Task Probe study. Subsequently, three families within this group dropped out of the Portage Project, one child's school district did not approve service because the child was below the legally mandated age for an early childhood EEN program, and another parent asked to be dropped from research activities. Each of the remaining 10 parents were observed teaching her child instructional activities during special task probe visits in the home when the home teacher was not present. Probe visits to these families thus served to provide information on the generalization of the parent's teaching and child management skills across new tasks and situations in which the home teacher's model was absent.

A control group of six families whose preschool children were enrolled in an EEN classroom that was operated by a neighboring educational agency, CESA 13, agreed to participate in the task probe study. The EEN children within the CESA 13 classroom received two to four hours of daily classroom instruction, with the length of the sessions varying with the age and special needs of the child. While no formal parent training program was in operation, the teacher maintained telephone, written, and personal conference contacts with the parents. The task probe visits in the homes of the control group families provided comparative information on the teaching and management skills that are displayed by parents who have received minimal systematic parent training.

Procedure

The task probe visits were carried out in the following manner. On the probe visit the parent was asked either to select from the educational materials which the observer brought or to use her own materials to "teach her child something new". The parent was free to use the materials in any manner she chose and was given no specific instructions by the observer. Nine visits were made to each family. Three baseline visits were made at one-half to one-week intervals to assess initial skill level; three mid-year visits were made at six-to nine-week intervals during the school year; and three postbaseline probe visits were made at approximately one-week intervals after the end of the school year.

The same coding system that had been utilized during the second year of the research was employed to characterize the parent-child interaction during the task probe visits (see Appendix D). The behaviors of interest included: 1) parental antecedents (commands and instructional aid), 2) child behavior (correct and incorrect task-related behavior, and inappropriate or off-task behavior), and 3) parental consequents (reinforcement, punishers, corrections, negations and expansions). Responses were coded during 10-second interval blocks on a coding grid, with the restriction that each behavior was coded only once per 10-second interval. Ten minutes of data was collected during each task probe visit, which typically lasted 15-20 minutes. A summary of the behavior codes and a copy of the observation sheet are included in Appendix D. The observers were equipped with the coding sheet, clipboard, and an audible interval timer worn like a hearing aid. Coding practice took place during in-service observer training sessions and periodic reliability checks were made by a calibrating observer (research assistant).

Reliability Estimates

Two types of reliability (Bijou, Peterson, Harris, Allen & Johnston, 1969; Lichstein and Wahler, 1976) were calculated for each behavior category.

Type I reliability assesses agreement on category occurrence or scored interval only; observers were in agreement when both scored a specified behavior within the same interval or in the adjacent interval and identical sequence if the behavior occurred on the 10-second beep, but they were in disagreement when the behavior was scored by only one of the two observers. Type I reliability was obtained by dividing the number of scored intervals in agreement by the combined number of intervals in agreement and disagreement during a 10-minute session. In Type II reliability, all intervals in which both observers agree on either the presence or absence of a category are considered to count as an agreement. Agreements on interval occurrence plus non-occurrence are then divided by disagreements in the calculation of Type II reliability. The relative merits of the two types of reliability are discussed by Bijou et al. (1969).

Observer reliability on task probe coding was at levels similar to those obtained during the second year of research. Commands, aids, correct child response, and reinforcers occurred frequently (i.e., in at least 10% of the intervals) in all sessions, while the other behaviors occurred with high frequency during some sessions and with low frequency during others. Punishers and expansions did not occur in any of the reliability checks. Table 3 presents mean Type I and Type II reliability for individual behaviors across 10 reliability checks.

Table 3

Mean Reliability by Behavior

Behavior	Type I ^a	Type II ^b
Command	88	91
Aid	75	91
Correct Child Response	84	90
Incorrect Child Response	77	99
Inappropriate Child Response	71	97
Reinforcer	83	93
Negative Feedback	86	99
Correction	73	98

^aType I: Agreement on scored intervals

^bType II: Agreement on both scored and unscored intervals

Mean Type I reliability, which is the more stringent measure, was 83% across checks (range: 71-88%). Type I reliability fluctuates more for infrequent behaviors than for frequent behaviors. For low frequency behavior, reliability may be an artifact of response occurrence and may be produced by relatively small differences in actual scoring (Hawkins and Dotson, 1975). Furthermore, the complexity of the behavior coding system and of the mother-child interaction attenuates the resulting reliability estimates. For example, the distinction between coding instructional aid and correction was often difficult because these responses are topographically similar and often must be distinguished by the sequence of response alone. Sometimes it was ambiguous as to whether the child had made a correct or incorrect response, unless the parent provided obvious reinforcing or corrective feed-

back. It was, therefore, difficult for the observer to code whether the visual, verbal, or physical aid provided by the parent was an antecedent (aid) or consequent (correction) event. Furthermore, the regular observer was often better attuned than the calibrating observer as to which of the child's subtle behaviors were considered inappropriate, unless the parent provided obvious negative feedback.

Mean Type II reliability was 95% (range: 90-99%) across reliability checks. Type II reliability is somewhat inflated, particularly for low frequency behaviors, as nonoccurrence agreements are included in the estimate.

Results and Discussion

The task probe performance of CESA 12 Parent Program and CESA 13 Control families and the nine behavior measures are summarized in Table 4. The initial three visits are represented in the table as the baseline phase, the subsequent three visits as mid-year, and the final three visits after the conclusion of the programs are represented as the post-baseline phase. Because of small sample sizes, nonparametric statistics were used in making within - and between - groups comparisons. An alpha level of .05 was used to assess statistical significance.

Within - group comparisons of performance over time were made with the Wilcoxin t-test for dependent samples. Parent Program families exhibited a significant improvement from baseline to post-baseline in the following teaching and child management skills: an increase in percentage of aid, reinforcement of correct child responses, correction of incorrect response, effectiveness of corrections, and a decrease in percentage of incorrect child responses negated by the parent. However, these families displayed

Table 4

Mean Performance on Task Probes

Behavior Measures	Parent Program (CESA 12)			Control (CESA 13)		
	Baseline	Mid-year	Post-baseline	Baseline	Mid-year	Post-baseline
<u>Parental Antecedents</u>						
% Effective Commands	36	37	25	31	36	29
% Aid	25	24	39	31	22	31
% Effective Aid	60	58	51	58	64	60
<u>Child Behavior</u>						
% Correct Response	75	76	80	76	72	75
% Inappropriate Response	6	5	4	4	4	4
<u>Parental Consequents</u>						
% Reinforcement	28	48	62	35	42	51
% Correction	35	59	66	41	48	49
% Effective Correction	47	45	80	54	42	57
% Negative Feedback	67	61	47	78	72	73
58						59

a significant decrement in percentage of effective commands and effective aid. In contrast, the teaching and child management skills of families within the control group remained stable from baseline to post-baseline phases, with the exception of a significant increment in the percentage of correct child responses which were reinforced.

The finding that the families in the Parent Program group were providing a higher percentage of aid but a lower percentage of their aids were effective in evoking correct child responses may indicate that the parents had not learned to be discriminating in their choice of aid or may have failed to give the child a chance to respond after giving initial aid. Unfortunately, the coding scheme did not permit an analysis of the quality or appropriateness of parental aids.

The Mann-Whitney U test for independent samples was used to compare the performance of Parent Program versus control families at baseline and post-baseline. The groups did not differ on any of the behavior measures at baseline. At post-baseline, Parent Program families were providing a significantly higher percentage of corrections ($U=11$, $p < .025$) and effective corrections ($U= 5.5$, $p < .01$), as well as a significantly lower percentage of negative feedback for incorrect child responses ($U=7$, $p < .01$).

From both the within-group and between-group nonparametric comparisons it can be concluded that the Parent Program treatment significantly enhanced the acquisition and generalization of parental teaching and child management skills in comparison to the control group classroom program in which there was minimal direct intervention with parents. This general conclusion is mitigated by the finding that the families in the parent training group

showed a decrement in the percentage of effective aid and effective commands over time. The percentage of effective commands remained stable across all probe sessions until the last two sessions during the postbaseline probes; the authors cannot account for or hypothesize why this sudden drop occurred. The decrement in the percentage of effective aid may be related to the increased percentage of aid provided, with parents giving more aid, but not yet having learned to "match" the aid provided to the assistance required for the child to demonstrate the response.

Study of Change in Knowledge and Attitudes

Method

Parental attitudes and knowledge about teaching and child management techniques were assessed through a set of brief questionnaires, which were administered on a pre/post-test or post-test only basis to 70 CESA 12 families.

Teaching Young Children, examined the parent's knowledge of principles of task analysis, aid, correction, reinforcement, and behavior management through a short answer, fill-in-the-blank format (see Appendix F). Parental competency in instructional planning was assessed by having them write an Activity Chart (see Appendix G). On the Parental Attitude Checklist, the parents rated their attitudes and behavioral reactions to 21 specific teaching and child management situations along a five-point Likert scale, ranging from "1-Never" to "5-Always" (see Appendix H). Parental confidence in being able to independently carry out 22 instructional planning and teaching functions with her child was indexed on a five-point scale, ranging from "1 - The home teacher would have to do this." to "5 - I can do this without any help from the teacher." (see Appendix I). Questionnaires were completed independently by parents, unless teacher's assistance was required in reading the forms or writing parental responses to them.

A random sample of 36 CESA 12 Parent Program families were selected for the "Pre-/Post-test" group. They were given the Parental Attitude Checklist and Teaching Young Children questionnaire at both the beginning and end of the school year, and the confidence scale only on the post-test. Twenty-five of these families completed all measures.

A blank Activity Chart was included in the post-test packets of a randomly selected subsample of 15 families within the "Pre/Post-test" group; 10 completed charts were returned.

To control for reactive effects which might result from completing the same questionnaires twice, a random sample of 34 CESA 12 families was selected for the "Post-test" group. These families completed the Parental Attitude Checklist, Teaching Young Children, and confidence measures at the conclusion of the school year. Thirty families within this group returned the post-test. A blank Activity Chart was included in the post-test packets of a randomly selected sample of 17 families within the "Post-test" group; 14 completed charts were returned.

Results and Discussion

To assess inter-rater reliability, a random sample of the knowledge measures were independently scored by both the research assistant and a Portage staff school psychologist. The Pearson product moment statistic yielded inter-rater coefficients of .95 on the pre-test and .96 on the post-test. Intra-rater reliability on a sample of questionnaires was found to be .92 on the pre-test and .98 on the post-test.

Table 4 summarizes parental performance on the various attitude and knowledge measures. It can be seen that the Pre/Post-test group and the Post-test group did not differ in their performance on either the attitude or the knowledge measures; no reactive effect resulted from completing the same questionnaires twice.

Table 5

Mean Performance on Parental Questionnaires

Group	Attitude ^a		Knowledge ^b		Activity Chart Post only	Confidence Post only
	Pre	Post	Pre	Post		
Parent Program: Pre/Post tests	3.52	3.68	15.42	19.81	12.00	3.71
Parent Program: Post test only	—	3.66	—	20.13	11.18	3.41

^aParent Attitude Checklist

^bTeaching Young Children

The effect of the Parent Program on parental attitudes and knowledge were assessed for the Pre/Post-test group by means of the Wilcoxin t-test. Both the attitudinal rating and scores on the Teaching Young Children questionnaire showed significant improvement. This data adds support to the second year findings that the Parent Program enhances attitudes and knowledge concerning teaching and child management skills.

Summary and Discussion

The effects of parental involvement and training components of preschool intervention programs on the behavior and skill of the parents have been little researched. Typically, efficacy of such involvement and training is indexed via measures of child development and behavior, with anecdotal accounts of the "gains" demonstrated by parents. While the ultimate effects must be demonstrable gains in child response, the staying power and preventive capability of early intervention programs hinges upon the acquisition and generalization of appropriate parental teaching and child management behaviors. If parents are serving only as the mediators of intervention, then the likelihood of their being able to independently evoke and maintain acquired child behavior, or to plan and implement instruction on subsequent developmental skills, is severely attenuated.

The present report represents the culmination of a three-year research effort to measure the acquisition and generalization of teaching and child management behaviors of parents of preschool handicapped children enrolled in the Portage Project. Earlier group design studies indicated the effectiveness of the Portage Model of home teaching (Shearer and Shearer, 1972) in changing various parental behaviors through an essentially parent-mediated intervention paradigm (cf. Tharp and Wetzel, 1969). However, a systematic, data based parent training component added onto the Portage Model (Portage Parent Program) produced significantly better parental performance along certain behavioral measures, parental confidence, and ability to independently complete an instructional activity than did the Portage Model alone. The addition of an intentional,

directed learning parent training program yielded significant and appreciable gains to the effects of observational learning and practice afforded in the Portage Model. The single subject research reported herein extends and refines the effects noted with the group design approach; in particular the present multiple baseline data establish the functional relationship between the parent training intervention and changes in parental response. While minor technical flaws exist, the changes in response noted across behaviors at the point of intervention for each of six different parents served by six different home teachers, argues strongly for the reliability and generality of effect of the parent training program. In addition, the reliability data collected between observers and the home teachers indicates that home teachers are able to independently and accurately record and track parent behavior over time during regular home visits.

An initial apprehension voiced by home teachers implementing the Parent Program was their concern that addition of the parent training component would detract from the child's developmental program. Data collected during the second year of the research grant demonstrated no significant differences in mean developmental gains for Portage Model and Parent Program groups, as measured by the Alpern-Boll Developmental Profile. In fact, slight increments were noted across the three areas assessed in favor of the Parent Program.

A second reservation of the home teachers was the amount of time required to program intervention for both the parent and the child. While some justification for this apprehension was evident initially, much of it dissipated as the home teachers learned to budget their time and became

familiar with the various techniques. Furthermore, as the parents acquired skills and assumed more of the instructional planning and implementation responsibilities traditionally held by the home teachers, the home teachers became more of a consultant to the parents and were able to concentrate more of their time and energy to helping the parents become better teachers and managers of child behavior.

While treatment effects were noted across the responses selected for change, inspection of the behaviors selected for the multiple baseline study (Figures 1-6) and the reliability study (Table 2) indicates that the majority were consequent events. This may be reflective of either the needs of the parents, or of the relative ease in identifying consequent events for change in comparison to antecedent events. Perhaps more work needs to be done in helping home teachers identify antecedent events in the teaching or child management domains, which they can then target for change to help parents become more effective in working with their developmentally delayed children.

The combination of a developmental, prescriptive-teaching model (Portage Model) and a systematic parent training model (Parent Program), both of which are data-based, would seem to hold great promise for programs working with disadvantaged or child abuse populations. The developmental deficits noted for children in both groups may be stemmed and ameliorated through an approach which intervenes neither with the child alone, nor the parent alone, but with both as an interactive system.

REFERENCES

- Alpern, G., & Boll, T. Developmental Profile. Indianapolis: Psychological Development Publications, 1972.
- Baer, D.M., Wolf, M.M., & Risley, T.R. Some Current Dimensions of Applied Behavior Analysis, Journal of Applied Behavior Analysis, 1968, 1, 91-97.
- Bijou, S.W., Peterson, R.F., Harris, F.R., Allen, K.E., & Johnston, M.S. Methodology for Experimental Studies of Young Children in Natural Settings. The Psychological Record, Vol. 19, 1969, 177-210.
- Bluma, S., Shearer, M., Frohman, A., & Hilliard, J. Portage Guide to Early Education, Revised Edition. Portage, Wisconsin: Cooperative Educational Service Agency 12, 1976.
- Boyd, R.D., & Bluma, S.M. Parent Readings: Portage Parent Program. Portage, Wisconsin: Cooperative Educational Service Agency 12, 1977.
- Boyd, R.D., & Stauber, K.A. Parent Behavior Inventory: Portage Parent Program. Portage, Wisconsin: Cooperative Educational Service Agency 12, 1977.
- Boyd, R.D., Stauber, K.A., & Bluma, S.M. Instructors Manual: Portage Parent Program. Portage, Wisconsin: Cooperative Educational Service Agency 12, 1977.
- Bronfenbrenner, U. A Report on Longitudinal Evaluations of Preschool Programs. Washington, D.C.: Department of Health, Education and Welfare, Publication No. (OHD) 74-25, 1974.
- Fry, E. A Readability Formula That Saves Time. Journal of Reading, 1968, 11, 513-516, 575-578.
- Graziano, A.M. Behavior Therapy With Children. Chicago: Aldine Atherton, 1971.
- Hersen, M. & Barlow, D.H. Single Case Experimental Designs. New York: Pergamon, 1976.
- Johnson, C.A., & Katz, R.C. Using Parents as Change Agents for Their Children: A Review. Journal of Child Psychology and Psychiatry, 1973, 14, 181-200.
- Kazdin, A.E., & Kopel, S.A. On Resolving Ambiguities of the Multiple-Baseline Design: Problems and Recommendations. Journal of Behavior Therapy, Vol. 6, #5, October 1975, 601-608.
- Lichstein, K.L., & Wahler, R.G. The Ecological Assessment of an Autistic Child. Journal of Abnormal Child Psychology, 1976, 4, 31-54.

Mash, E.J., Handy, L.C. & Hamerlynk, L.A. (Eds.). Behavior Modification Approaches to Parenting. New York: Brunner/Mazel, 1976.

Shearer, M.S., & Shearer, D.E. The Portage Project: A Model for Early Childhood Education. Exceptional Children, 1972, 39, 210-217.

Tharp, R.G., & Wetzel, R.J. Behavior Modification in the Natural Environment. New York: Academic Press, 1969.

PARENTAL BEHAVIOR INVENTORY

Richard D. Boyd & Kathleen A. Stauber



FAMILY NAME _____

	0-25%	26-50%	51-75%	76-100%	Comments
I. TEACHING ANTECEDENTS					
1. Parent removes extraneous, distracting stimuli					
2. Parent commands child's attention before presenting teaching antecedent					
3. Parent provides <i>brief</i> explanation or command					
4. Parent's language corresponds to child's receptive language level					
5. Parent models appropriate response to initiate task					
6. Parent provides appropriate visual, verbal, or physical aid when necessary to initiate response					
7. Parent provides additional aid if child becomes frustrated with task					
8. Parent periodically repositions stimulus materials to avoid correct responding to position					
9. Parent makes child aware of contingencies of reinforcement for correct response (i.e., if you do X than you can do Y)					
II. MATERIALS					
1. Parent uses instructional materials as modeled by instructor					
2. Parent chooses appropriate materials given choice by instructor					
3. Parent selects appropriate materials for instructional activity from materials available in home					
4. Parent independently and appropriately selects, presents, and positions materials during instructional activities					
III. TEACHING CONSEQUENTS					
A. Reinforcement in Teaching Tasks					
1. Parent reinforces appropriate behavior					
2. Parent provides immediate reinforcement					
3. Parent provides edible reinforcers if necessary to initiate or maintain child's performance					
4. Parent pairs verbal or social reinforcer with tangible or activity reinforcers					

	0-25%	26-50%	51-75%	76-100%	Comments
5. Parent provides verbal reinforcer for appropriate response					
6. Parent provides enthusiastic verbal reinforcer					
7. Parent pairs knowledge of correct results with verbal reinforcer					
8. Parent varies types of reinforcers when appropriate					
9. Parent presents reinforcement contingently: If child does X then parent gives Y					
10. Parent provides consistent reinforcement for new instructional activities					
11. Parent provides intermittent reinforcement for acquired tasks					
12. Parent provides reinforcement for approximations toward target behavior					

B. Correction

1. Parent allows the child sufficient opportunity to perform task					
2. Parent provides correction if child responds incorrectly					
3. Parent emphasizes correct answer, not incorrect one when providing correction					
4. Parent presents correction in matter-of-fact manner; is neither negative, punitive or reinforcing					
5. Parent avoids unnecessary use of "no" or "not" in correction					
6. Parent provides only amount of aid required to evoke correct response					
7. Parent has child practice correct response after correction has been given					
8. Parent reinforces child's correct response even if a correction was given					

C. Expansion

1. Parent provides occasional expansion					
a. expands child's utterance to make complete or grammatical					
b. associates child's utterance with new or familiar information					

IV. CHILD MANAGEMENT

A. Effective Use of Reinforcement

1. Parent "catches them being good": reinforces appropriate behavior					
2. Parent avoids adding criticism to praise					
3. Parent consistently reinforces appropriate behavior which is incompatible to behavior to be eliminated					
4. Parent makes child aware of contingencies (i.e., if you do X, then you can do Y) and reinforces contingently					
5. Parent states antecedent and consequent events that are controlling child's appropriate behavior					

	0-25%	26-50%	51-75%	76-100%	Comments
B. Effective Use of Punishment					
1. Parent consistently ignores minor misbehavior					
2. Parent avoids threatening child					
3. Parent responds immediately and consistently to misbehavior that is not to be ignored					
4. Parent selects mild punisher from special menu for misbehavior not to be ignored					
a. parent "times out" self (i.e., withdraws attention from child)					
b. Parent withdraws privileges or reinforcers when the undesirable behavior occurs (response cost)					
c. parent uses <i>time out</i> consistently for undesirable behavior					
• parent avoids threats to use time out					
• parent administers time out in a matter-of-fact manner, giving a brief explanation and no commercials					
• parent leaves child in time out area for only a short period of time (2-5 minutes) unless child is still behaving inappropriately					
• parent releases child from time out in matter-of-fact manner					
• parent reinforces incompatible appropriate response					
d. parent uses physical punishment only for misbehaviors that are harmful to the child or others					
• parent tells child not only why he is being punished, but what he needs to do to be reinforced					
• parent immediately and consistently provides firm physical restraint or verbal reprimand whenever the misbehavior occurs					
• parent avoids punishing in anger					
5. Parent states antecedent and consequent events that are controlling child's inappropriate behavior					

V. INSTRUCTIONAL PLANNING

A. Behavioral Objectives/Task Analysis

1. Parent and instructor jointly select future goal using <i>Checklist</i> for child					
2. Parent chooses appropriate behavioral objective from alternatives presented by instructor					
3. Parent names the four components of behavioral objective					
4. Parent writes behavioral objective, with instructor completing or assisting in task analysis					
5. Parent determines goals for her child using <i>Checklist</i> and the child's current performance					
6. Parent completes task analysis of goal, using informal assessment and baseline data					
7. Parent selects behavioral objective for instructional activity from independently completed task analysis					

	0-25%	26-50%	51-75%	76-100%	Comments
B. Directions					
1. Parent selects appropriate reinforcers for instructional activity					
2. Parent writes reinforcer to be used					
3. Parent selects type and amount of aid					
4. Parent writes "aid" portion of directions					
5. Parent selects appropriate correction procedure					
6. Parent writes specific correction procedure					
7. Parent selects materials for instructional activity					
8. Parent determines use of materials for instructional activity					
9. Parent writes specific directions for use of materials					
10. Parent determines amount of practice					
11. Parent writes amount of practice					
12. Parent modifies activity on basis of baseline data or daily performance					
C. Recording					
1. Parent records child's daily progress, using system set up by instructor					
2. Parent informs instructor when child masters non-prescribed behaviors, updates child's <i>Checklist</i>					
3. Parent records post-baseline on previous activity					
4. Parent decides whether credit should be given on basis of post-baseline and past performance					
5. Parent records baseline on instructional activity					
6. Parent selects recording procedure from alternatives presented by instructor					
7. Parent independently sets up recording system					

APPENDIX B

DATE: _____

OBJECTIVE: _____

STRATEGY: _____

+ = _____

- = _____

Approximate Recording Time: _____

% Appropriate Response: _____

+	-	+	-	+	-	+	-	+	-
+	-	+	-	+	-	+	-	+	-
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APPENDIX C

I.D. _____

Date _____

Behavior _____

+ _____

- _____

Behavior _____

+ _____

- _____

Behavior _____

+ _____

- _____

Behavior _____

+ _____

- _____

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APPENDIX D

BEHAVIOR CODE DEFINITIONS

Richard D. Boyd and Kathleen A. Stauber

BEH-Research - Portage Project

ANTECEDENTS

Cm (Command)

Cm should be coded whenever the parent verbally or with gestures tells the child to do or not to do some activity. The command (Cm) only tells the child what to do; it does not provide information on how to do it.

Examples of common forms that commands might take:

1. Any direct, clearly stated task-related request, such as

"Put the puzzle together!"

"Now you draw a circle!"

"Give me a blue chip!"

2. Any statement expecting compliance, such as

"You'd better pick up that pencil!"

"Give me that book!"

"Stop throwing those blocks!"

3. Questions to which a response is obviously expected, such as

"What color is this?"

"Which one goes with the cup?"

"Would you please pick up the block?"

4. Open-ended statements that are used to evoke a response, for example

"This one is _____."

"Humpty-Dumpty sat on the _____."

5. Pointing to the material(s) without accompanying verbalization is a common form of gestural command. By pointing, the parent shows the child what he is to respond to.

Examples of special forms that commands might take:

6. Stimulus materials (e.g., picture cards, records, tapes, a workbook) may be presented in a manner which implies a command. If the parent presents the learning material or stimuli as discrete units, then each presentation

by the parent would be considered a Cm. If the parent gave the child a stack of cards or put on a record or gave the child a workbook, and then the child worked on the materials by himself, we would code only a single command by the parent. Although we would not code commands given by a tape or record, we would code the child's responses to such stimulus materials. However, if the parent stopped the record and then started it again, we would code Cm each time this occurred. If the parent presents picture cards one at a time, code Cm for each presentation.

7. In a sound discrimination task in which the child is to recognize (e.g., clap hands) specific sounds or words, the parent's saying the letter sounds serves as a Cm. For example, if the child is to clap his hands when he hears the /s/ sound, each presentation of that sound by the parent would be a Cm.
8. Code statements like "Let's do just one more." or "Let's do it again!" as Cm if the parent expects a response from the child. However, do not code Cm if the parent is obviously giving the child a choice; we will consider this "noise". Frequently, the parent will give a choice, the child will respond negatively, and the mother will then present the same wish as Cm (e.g., "Shall we do one more?" Child responds "No."; mother then says, "Let's do just one more and then we'll stop."). The first part would be considered noise, then a Cm.
9. Code Cm when the parent reads simple directions from a workbook, such as, "Put your finger on the row with the flower!".

Q (Instructional Antecedents or Aid)

Q should be coded whenever the parent aids (explains, models, prompts, or primes) the child in making the response. The aid will frequently be paired with a command, but it may occur alone.

Here are examples of the types of aids that the parent may provide.

1. Explanations: Parent describes materials and/or their use to the child, or gives the child verbal directions regarding the task to be performed without directly specifying that the child is to engage in the behavior. For example:

"Now we're going to put these shapes inside the ball. You'll have to find a hole that looks just like the shape - the shape will only go into it's hole and not the other ones."

"To play this game, you will have to find another picture that looks just like the one that I give you. I want you to put together the ones that look alike!"

Note that the second example contains both an explanation (Q) regarding the task as well as command (Cm). Both Q and Cm would be coded in such an instance.

2. Models: Parent demonstrates to the child how the task is to be performed. For example:

- a. In drawing or block building or bead sequencing activities, the parent may present a model for the child to copy.
- b. In teaching a physical activity, the parent may engage in the behavior of jumping, standing on one foot, hopping, etc.
- c. The parent may provide a verbal model to the child so that the child can produce an appropriate speech sound pattern or in order to give the child the label for an object, color, shape, etc. An example of the parent giving a verbal model to the child would be if the parent said, "This is a picture of a snake. Can you say snake?" Both Q and Cm would be coded in this example as the parent both modeled the appropriate response and asked the child to imitate the parent's model.
- d. If a child is to repeat a rhyme, the parent may first say, "Repeat after me!" (ie. Cm). Then the parent may model one line at a time, pausing to let child respond. You would code Q for the parent's model; you would not code Cm unless the parent gave another explicit command. A model, verbal or visual cue, or prime can serve as the antecedent that evokes the behavior.
- e. For the young, non-verbal child an apparent command may actually be the stem of a model. For example, the parent may say, "What is this?" It's a house." The question serves as the stem of the model, "It's a house", because the parent does not expect or give the young child the chance to answer the initial question. In such situations you would only code Q; you would not code Cm.

3. Prompts and Primes: Parent gives the child a verbal or visual cue (Prompt) as to the appropriate response or physically assists (Prime) the child to initiate or perform the response.

a. Examples of prompts include:

Mom cues child to name the color red by giving the initial consonant sound -- "This color is rrr..."

The parent might verbally prompt the child as he draws a square by saying, "Down...stop. Okay, now go across."

If a child is learning a nursery rhyme, the parent may cue him by saying parts of the rhyme.

- b. Examples of primes include the parent pushing the child's knee down to start him peddling a tricycle or the parent placing her hand upon the child's to help her draw or to help her orient a puzzle piece.
4. Brief informative commands (e.g., Hold your pencil up! Cut slowly! Turn the puzzle piece!) which are presented after the initial command in order to cue correct behavior should be coded as Q not as CmQ.
5. When the aid is built into the materials, code Q only if the parent has the option to use the aid or purposefully provides the aid. However, even if the aid is prescribed, code the parent's use of it as Q.

Examples of special forms that instructional antecedents might take:

6. Parent's turn as a model: When the parent is teaching a new game to the child, she may verbally explain what they will do and then demonstrate the game. When they begin to play the game, the parent's turn should be coded as Q only if the parent draws the child's attention to what she is doing and purposefully tries to teach something through her turn. When taking turns becomes an automatic part of the game, do not code the parent's turn as Q.
7. Antecedents that set-up the task would not be coded.

For example, if the parent is reading a book to the child or telling a story, the reading merely sets-up or prepares the child for the task of answering questions about the pictures or story. Stop coding when reading begins. If the reading extends over more than one coding interval, begin coding in the next blank interval as soon as the next codable antecedent or child behavior occurs. For the young child who is not familiar with the objects in the book, the parent may model the object's name. You would code Q in this special instance.

Similarly, you would not code a story record or tape as an instructional antecedent. Remember that we are only coding parental antecedents. If the parent starts the record or tells the child to listen to the story, we would code Cm.

When statements like "you're not watching (listening, etc.)!" or "Are you looking?" or "get ready!" are used to attract the child's attention, they would be considered "noise" and would not be coded.

Furthermore, do not code statements that the parent makes while she is setting up the next task unless these statements are specifically directed to the child. The parents may, for instance, say "Okay, now we can do this one next." These statements do not fall within the antecedent or consequent events of interest to the research project, and therefore, are not coded.

8. Instructional aids which follow the child's incorrect (Ic) or inappropriate (R-) behavior would be coded as a correction (C), not Q. Thus, behavior is not defined by its form alone, but also by whether it serves as an antecedent or consequent event; that is, it is defined in terms of its temporal relationship to behavior, either preceding or following child response.

CHILD BEHAVIOR

You will only be coding behaviors which can be observed and counted. Partial responses, "thinking", etc., will be considered to be "noise" and will not be coded.

R+ (Appropriate Response)

R+ should be coded when the child engages in the appropriate behavior. An appropriate child response may follow any antecedent event (i.e., Cm or Q). Sometimes an R+ will follow a consequent event; for example, the parent may correct (C) the child's behavior and the child then will respond appropriately.

Ic (Incorrect Response)

Ic would be coded whenever the child attempts to perform the task appropriately, but does not succeed. Examples would be where the child attempts to hop on one foot in imitation (Q) of the parent for a distance of 5 feet and can only go 3 feet; or when the child is asked to point to a square, but points to the triangle. This code is distinguished from Inappropriate Response (R-) in that the child attempts to comply with the request or task presented to him. With R- the child makes no such attempt, but engages in disruptive behavior, intentionally uses the materials at hand for a purpose other than the one specified, or engages in behavior irrelevant to the task/directions presented.

1. Child gives a partial response: Care must be taken to code only obvious responses as Ic or R+. Partial responses (e.g., giving the initial consonant sound when asked to name an object; beginning to reach in the direction of the wrong colored block) would not be coded as Ic unless the parent considers the behavior to be incorrect by verbally or physically punishing the child's response or by giving a correction. If the parent accepts the partial response as correct, you would code R+. Otherwise the partial response would be considered to be "noise" and would not be coded.
2. Parent changes criterion for correct behavior: While the behavioral criterion will usually be discussed by the teacher and defined on the Activity Chart, sometimes it will be vague or variable. For example, the parent may give aid (Q) when the child shows trial and error behavior or makes a partially incorrect response. Even if the criteria on the Activity Chart is without aid, we would code a correct response as R+ (not as Ic), because the mother is changing the criteria on her own--bringing it to a lower level so that the child will succeed.

R- (Inappropriate Response)

R- would be coded whenever the child engages in irrelevant or inappropriate behavior. Inappropriate behavior might include shoving the materials off the table onto the floor; refusing to perform the task by shaking the head, saying no, or turning purposefully away; using the materials for a purpose other than explained or modeled for the child (e.g., stacking of beads rather than stringing them), etc.

Examples of irrelevant behavior might include non-attending (e.g., looking out the window, looking at the TV, etc.), or perseverative motor responses (e.g., hand flipping, swinging legs back and forth, etc.), or irrelevant verbal responses such as "Here comes the mailman.", "Look at the tractor.", etc. Only obvious non-attending should be coded as R-; the child should not be oriented toward the materials before R- would be coded.

In most instances, the above examples of inappropriate behavior should guide your coding. If there is some ambiguity as to whether the child's behavior is truly inappropriate, then your coding R- will be determined by the parent's response to the behavior. For example, do not code R- if the child accidentally drops or damages something unless the parent considers this misbehavior. Similarly you would not code R- for the child responses of "I don't know!" or "I can't!" if the child is serious and is not simply being contrary. If the child is being contrary or refuses to comply by saying "I won't do it!", you would code R-.

Special Cases of Child Behavior

1. In activities where two behaviors might be coded simultaneously, code the behavior that has been prescribed or is being emphasized by the parent. For example, if the objective is to teach the child to take turns in playing games, then you would focus on whether the child was appropriately taking turns, not upon whether the child played the game correctly. You would code R+ if the child waits for his turn, Ic if the child skips turns, and R- if the child misbehaves. However, if the parent stresses the objective of learning how to play the game, then you would code whether the child played correctly.
2. A timer may be used to teach the child to work on a task (e.g., persevering with a new game; listening to a story) for a specified period of time. If the objective is for the child to stay on task, you would stop coding child behavior unless the child misbehaves or the parent interjects an antecedent. At the end of the time period, you would code R+ if the child stayed on task or Ic if the child did not work for the full time period. Stop coding any timed activity that extends over 30 seconds. Begin coding if the parent intervenes with an antecedent. If the child does not stick to the task for the specified amount of time, code Ic. If the child continues to behave inappropriately switch to coding R-. When the parent also focuses upon correct performance of the task during the time period, you would also code the child's performance as either R+ or Ic, depending upon parental consequences.

3. Extended Responding: Stop coding extended responses (e.g., cutting, drawing, etc.) after 20 to 30 seconds. Resume coding with the next parental antecedent or child behavior.
4. Non-observable behaviors will not normally be coded. Behaviors such as listening are difficult to code because they cannot be counted. If the objective is for the child to listen to a story, we could only assume that he was listening if he sat quietly throughout the period and attended to the story. You would probably have to rely on whether the parent accepted the child's behavior as appropriate listening behavior before coding R+ or Ic at the conclusion of the story. If the parent then asked the child questions about the story, you would be able to code each of the child's responses. Unless listening is the specific objective, do not attempt to code such behavior.

If the objective is to teach the child to attend to the parent's face or another specific stimulus upon request for a specified amount of time (e.g., 5 seconds), then the child response has been objectively defined so that it can be easily categorized as R+ or Ic. In this case, if the child looked at her own hands when the parent commanded, "Look at me!", you would code Ic.

5. If the child verbally or gesturally seeks assistance in the task, consider such behavior to be "noise". The child may, for example, attempt to place a puzzle piece in the form board, fail in this attempt, and look to the mother for assistance. The failure after the attempt would be coded Ic, but the appeal for help would be considered "noise" and would not be coded.
6. Occasionally you may observe a three-way interaction in which someone in addition to the parent is interacting with the child. For example, the home teacher or a sibling may join in on an activity. In such instances you would code only the parent and targeted child. You would ignore the teacher or other child. If the teacher took over (See section on Teacher Behavior) working with the child, or the mother focused her attention on the sibling, you would stop coding until the interaction again shifted back to the targeted child.
7. By mid-year the Rebus Workbook will have become a regular activity for some of the children. Through this series of reading workbooks, the child learns words by associating pictorial symbols with the printed work; he begins to read sentences; and he begins to learn the fundamentals of sentence structure.

The response that is expected from the child will vary depending upon what step he is on in the workbook series. However, the following sequence of basic responses is typically expected.

First, the child will be expected to read something (e.g., a question) from the workbook -- he may be expected to read one word at a time, short phrases, a sentence, or a paragraph. Because you won't be able to see the material that the child is reading, your coding of R+ or Ic will be primarily determined by the parent's response to the child's behavior.

Second, the child will be expected to respond to what he has just read, for example, answer a question. You would code the child's verbal answer to the question as either R+ or Ic. Again your coding may be guided by the parent's confirmation or disconfirmation of the child's answer.

Third, the child will then be expected to find (e.g., point to or color in) the symbolic answer to the same question that he answered verbally. This response would be coded separately as either R+ or Ic, because the child may be able to say the correct answer without being able to point to its visual representation.

CONSEQUENTS

Before coding a consequent event you must have first observed and coded some child behavior.

Re (Secondary Reinforcer)

Re would be coded when the parent gives clear verbal or gestural approval to the child.

1. Social reinforcers fall within this category. For example, smiles, clapping, nod of approval, hugs and kisses, and positive statements such as, "Good", "I like the way you put all the red chips together."

However, neutral forms of verbal confirmation (e.g., okay, uh huh) that lack positive intonation are "noise" and would not be coded.

2. Any positive confirmation of the child's R+ would be coded as Re. If the parent repeats the appropriate response in response to the child's R+, then Re would be coded as this serves to reinforce the child's appropriate behavior. For example, the mother might respond "Yes, that's red!" when the child either points to or names red. Similarly, a parent may show the child a picture of a cat when the child correctly names the "meow" she heard on a tape. Parental confirmation will often take the form of simply saying, "That's right!"
3. If token reinforcers, such as stars, happy faces, animal stickers, plastic poker chips, etc. are given in response to a child's R+, then Re would be coded.
4. Do not code statements of encouragement to the child, such as "Come on, come on!" or "You can do it!" or "Try harder, keep going!" Such statements will be considered to be "noise". They do not fall within the antecedent or consequent events of interest to the research project.

R_p (Primary Reinforcer)

R_p would be coded whenever the parent administers a primary (food) reinforcer to the child without a secondary reinforcer (verbal praise, gestural approval or tokens). Infrequently, an R_p occurs as part of an appropriate response to the materials when the child is working on chewing, swallowing food or drink, self-feeding, etc.

Re (Paired Reinforcers)

1. Re would be coded whenever the parent gives the child both a primary and a secondary reinforcer. For example, the parent could give the child cereal and say "Oh, honey that was really good." In this case, cereal would be the primary reinforcer and the verbal statement the secondary reinforcer, and you would code Re instead of 2 symbols.

General Rules for Coding Reinforcement:

1. Code reinforcement of a particular R+ in only the first interval in which it is recognized. Do not code extended reinforcement (e.g., activity reinforcer or several positive statements concerning the same behavior) across several intervals.
2. Disregard reinforcers that are not related to a specific, coded response (e.g., "You really make mom proud!").
3. If the parent reinforces (or corrects) different subunits of the response, code R+ Re (or IcC) for each subunit.

N (Negative Feedback)

N would be coded whenever the parent disconfirms the child's response in a neutral fashion.

1. Examples of verbal disconfirmation include:
"No" or "Nah" or "Uh-uh"
"That's not red."
"That don't look like "X" to me!"
2. In addition, code N if parent consequences R- or Ic behavior with a general negative statement. For example, "You're not looking (listening or thinking)."
"You're not holding your pencil the right way!"
3. Obvious gestural disconfirmation such as shaking head or finger sideways would also be coded as N if it were done in a non-punishing fashion.
4. Do not code anything if the parent merely hesitates when the child makes an Ic, or if the parent gives an ambiguous vocalization (e.g., sudden inhalation, "Oh?" or "Um?"), since such feedback may be unclear to the child.
5. If the disconfirmation has a negative intonation, consider it to be a punisher not negative feedback. (See section on punishers)

P (Punisher)

P would be coded whenever the parent expresses obvious disapproval of the child's inappropriate (R-) or incorrect (Ic) behavior.

1. The parent may physically punish the child with a pinch, slap, shove or in some other way physically restrain the child from engaging in certain behaviors.
2. Strong negative verbal or gestural disapproval of the child's behavior would also be coded as P. For example, the parent might scowl, yell "not that way", exclaim "Can't you ever do it right!" If the parent disconfirms the child's response in a neutral fashion, this would be coded as N, not as P.
3. Sometimes the parent consequences the child's behavior with a threat or caustic command which is also a punisher because of its negative intonation. You would code both Cm and P. For example:
"If you know what's good for you, you'd better stop that!"
"Behave or I won't take you to grandma's!"
"Don't do that!"

However, if parent gives a nebulous command with neutral intonation (e.g., "Behave!" or "Act decent!"), you would consider this "noise".

C (Correction)

C would be coded when the parent gives the child the correct information or response when the child does not produce appropriate behavior. The correction will be some form of aid, such as an explanation, model, prompt, or prime. C is coded (not Q) when the aid follows rather than precedes a child's Ic or R-.

1. To determine whether the parent is giving a correction or not, you must be aware of what response is expected from the child. For example:
 - a. If the child points to red when asked to point to yellow, and the parent points to yellow and says, "This is yellow.", then C would be recorded. Had the parent responded, "No, this is the yellow one!", then both N and C would be recorded.

However, given the same example, if the parent had responded, "No, that's the red block.", then N would be coded, but not C as the parent did not give the child the appropriate information/response in the feedback statement. Note that whenever the child is making a pointing response and points to the wrong object, then the parent must show the child the correct object in order for a correction to be coded.

- b. However, when the child is expected to name something and calls it by the wrong name, then the parent must tell the child the correct name for the object in order for C to be coded. For example, if the child calls a horse a "doggie", the parent might correct this error by saying, "It's a horse." If the parent had responded to this same example by picking up a plastic dog and saying, "No, this is the dog.", you would code only N because the parent did not provide the child with the correct name for the original object (i.e., horse).

2. After the child has made an error, the parent may try to prompt the correct response by asking the child to re-examine a specific portion of his behavior. For example, if the child is copying a block pattern and uses a red block instead of a purple block, the parent could draw the child's attention to the discrepancy between his response and the model by saying, "Should the red block go on top?" You would code C whenever the parent gives a specific prompt as to how the child should re-examine his/her behavior.

However, if the parent asks the child to re-examine his behavior in a general fashion you would code Cm, not C. For example, the mother may say something like "Does that look right?" or "Look at mine again!" or "Are you sure?" to encourage the child to correct his own behavior.

3. Particular attention must be given to situations where the parent responds verbally to an inappropriate or irrelevant child response. For example, if the child does not comply with a request (Cm), is playing with his hands (R-), and the parent responds "No Timmy, hands on the table.", then this consequent should be recorded as N (Negative Feedback) plus a C (Correction). It is coded as a correction because the parent gave the child the appropriate response in her statement. Another example might be: "No, we don't throw the blocks". Again this would be coded as N, plus C. However, had the parent responded, "No, pick up those blocks," then N plus Cm would be coded as the parent did not give the child the appropriate information/response, but did make a direct request of the child.

After R- behavior, if the parent states contingencies for reinforcement by describing the appropriate behavior (e.g., "If you sit at the table and cut, you will get another sticker!"), code C.

4. Code correction of a particular Ic or R- only in the first interval in which it is recognized. Do not code an extended correction across several intervals. However, if the parent sequentially corrects different subunits of the global response, code Ic C for each subunit.

Ex (Expands)

Ex would be coded when the parent gives additional information to the child, in response to a child response, beyond merely confirming the child's correct or incorrect response.

1. For example, the parent may provide additional information about the attributes of a particular object, make the child aware of its functional properties, or associate the object or its properties with other similar objects or properties. Examples of Ex would be:
"That's right, it's a broom. Mommy uses the broom to sweep the floor."
"Yes that's green; it's the same color as grass."

2. After a child has made an incorrect response, the parent may not only correct that response, but also use expansion. For example, if the child calls the red block blue, and the parent says "it's red just like the tomatoes in our garden.", you would code both C and Ex. In this instance the parent has used the expansion to help the child remember the correct name by associating it with something he is familiar.

General Coding

Allow the mother to cue your coding of continuous versus discrete child behavior.

1. Even if the behavioral objective implies that you should be coding a continuous behavior, the parent may modify the criterion and break the task into components (i.e., treat it as discrete).

For example, the task of counting from 1 to 5 may be scored in a variety of ways:

- a. If mom models the entire sequence and waits for child to count from 1 to 5 before reinforcing, then you would code Q — R+ Re because mom treated the task as continuous.
 - b. If child hesitates when counting "continuously" from 1 to 5, you would code Q if the mom provided either the initial sound or model for the next number. Similarly, if the child counts "1, 2, 4" and mom corrects child, you would code Ic and C. If the child then completed the sequence with "3, 4, 5" and was reinforced by Mom, you would then code R+ Re.
 - c. If the child is involved in a continuous motor activity such as walking forward across the balance beam, code R+ only when child reaches the end of the beam. Code Ic if the child steps off the beam before reaching the end. Frequently, the child will continue walking the beam from the point(s) he slipped off and will be reinforced when he finally reaches the end. In this instance, you would code Ic each time he stepped off (and a correction if one is given by the parent) and R+ Re if he is reinforced for reaching the end of the beam.
2. You will be cued that the parent is breaking a task into smaller units either when the parent presents antecedents for discrete parts of the task and/or reinforces discrete responses. For example, the parent may treat completing each side of a square as a discrete response. If the child drew the following  and mom waited to correct the third side until after the task was complete, then your coding might look unusual if you accurately record what occurred (e.g., Q R+ Re R+ Q Ic R+ Re C). Code the sequence of events in the order that they occur. If the parent corrects a previous Ic, code C where it occurs, but note what happened.

Similarly, the parent may reinforce a portion of a child's behavior (e.g., "Good on this one!") and punish or correct another portion of the response (e.g., "But you should have made this line straighter."). You would code R+ Re Ic C.

In summary, do not code a parental consequence without coding the child behavior. If the consequence does not immediately follow the behavior, indicate with a check mark and explain what occurred.

TEACHER BEHAVIOR

TI (Teacher Intervenes)

This category is coded whenever the home teacher intervenes with the child during the Parents Models for Home Teacher phase.

1. If for example the home teacher prompts or models for the child when the parent is working with the child and modeling for the home teacher, then TI should be coded. Again, the observer should stop recording during the intervention by the home teacher, note how long the intervention lasts, and start recording again when the parent resumes working with the child. Only code TI when the home teacher takes over for the parent in working with the child and this interferes with the parent-child interaction.
2. TI is not coded, however, if the home teacher corrects the mother's teaching techniques during the Parent Models phase. Often the home teacher will briefly, but immediately suggest to the parent alterations in the presentation of materials, giving more physical or verbal aid, providing more immediate reinforcement, etc. These brief interruptions should be ignored as long as they do not materially affect the parent-child interaction. For example, a quick Re (Secondary Reinforcer) on the part of the home teacher would not be coded as TI because this may be serving as a model. However, if the teacher usually reinforces the child and does not give the parent the opportunity, then you would code TI.
3. Do not code TI if home teacher completes an activity with the child to keep him/her occupied when the mom leaves the situation to tend to other children or problems.

OBSERVATION SHEET

CHILD ID NUMBER _____

DATE _____

OBSERVER _____

BEH Research Project
Portage Project

TIME _____

ANTECEDENTSCHILD BEHAVIORCONSEQUENCES

Cm = Command

Q = Instructional/Antecedent

R+ = Appropriate Response

R- = Inappropriate Response

Ic = Incorrect Response

~~Pr~~ = Primary Reinforcer

Re = Secondary Reinforcer

Re = Paired Reinforcer

C = Correction

Ex = Expands

P = Punisher

N = Negative Feedback

Ti = Teacher Intervenes

10-SECOND INTERVALS

Cm Q R+ R- Ic ~~Pr~~ Re Re Ex C N P Ti

Comments: (Include discussion of any major deviation
from the precision teaching model, general
coding problems, etc.)

List in the same order as you recorded them, the teaching
activities which the parent modeled:

- a.
- b.
- c.
- d.

How many Time Outs (To) were enforced? _____
What preceded the Time Out(s)?

Describe any other special behavior management techniques
that were used.

Were there any other unusual interruptions during the
observational period?

APPENDIX E

CODING PROCEDURES

by Richard D. Boyd and Kathleen A. Stauber

BEH RESEARCH PROJECT PORTAGE PROJECT

1. Coding must take place on a continuous basis during each 10 second interval. Within each 10 second interval, code each category only the first time that behavior occurs.
2. Coding should begin during the Parent Models for Home Teacher phase. Begin coding after the parent gives an antecedent event (Cm or Q) to the child and the next beep goes off. The antecedent event would define the point at which parent-child interaction is initiated.
3. If no codable behavior occurs during a 10 second interval, then a line should be drawn diagonally (/) in that interval space.
4. If the beeper goes off during the middle of a particular behavior, code the behavior during the interval in which you first recognized the behavior as falling within a given code. Thus, if the mother starts to give a command (Cm) in one interval, but the beeper goes off during the middle of the command, then the observer would code Cm in the interval in which the statement was recognized as a command. Try to make "immediate" decisions.
5. At the end of each minute (six 10 second intervals, or the end of each row), the observer may cease to record data for 10 seconds in order to make a special explanatory notation or to rest briefly. Begin when the beeper sounds again. If a reliability checker is present with you that day, you will both take the 10 second rest. Look up at the checker to make sure you are in phase with one another. If you are ahead of the checker, wait for him to catch up so that you begin the next minute of recording at the same time. To indicate that you have taken a rest and that the coding is discontinuous, place an X at the end of the row to mark where you took a break.
6. Whenever TI (Teacher Intervention) is coded, the appropriate code is noted in the interval and the observer should place small tally marks, in the same interval space, for each beep that follows the TI. This produces a fairly accurate estimation of the duration of the TI. The observer would begin recording data again only after the mother produces an antecedent event (Cm or Q) and the next beep then goes off. The observer waits for an antecedent event from the parent as this alerts them to the fact that interaction between mother and child has begun again; the next beep would then prompt the observer to record behavior in 10 second intervals.
7. Whenever the parent administers a Time Out (TO) procedure (i.e., specific form of mild punishment in which child is briefly isolated), you would indicate that a Time Out occurred and would describe what preceded it on the back of the code sheet. The observer should stop coding when the child is in the time out area. However, if the parent withdraws her attention from the child, you would stop coding but would not record this as a Time Out on the back of the code sheet.

8. After any interruption in the coding process (e.g., setting up next activity, the phone rings, water on stove boils over, TI, TO, or withdrawal of adult attention from the child), begin coding again after the parent gives the child an antecedent event and then the next beep goes off.
9. If a behavior occurs that is questionable as to which category it best belongs, then the behavior should be coded (a decision should be made immediately) and a check mark (✓) made in that interval. Later, in the space reserved for comments, the observer should describe the ambiguous behavior in detail. The ambiguity would then be discussed and hopefully resolved during the weekly in-service meeting. If a segment of parent-child interaction is confusing, you may refrain from coding for several intervals. Begin as soon as you feel reasonably confident in categorizing the interaction. Always make notes on what is ambiguous (See Problem Sheet.).
10. If a particular behavior occurs over a number of different intervals, such as in the case where the child is responding to the task but it takes him several intervals to complete the task, then a horizontal line should be placed in the intervals where he is still responding and the resulting behavior coded only upon completion of the child's response. This procedure is used as an observer cannot characterize a continuing response as either Ic or R+ until the completion of the response. A good example might be where the child is to count 10 objects and it takes him 27 seconds to complete the task. The behavior should be coded as Ic or R+ only when the response is completed. If the child errs in the middle and the mother corrects the child, then the child's behavior (Ic) could be coded even though the child has not counted up to 10. If however, the child counts correctly up to 6, seems to be having difficulty continuing, and the mother prompts the child, then a Q would be coded for the mother's prompt, but the child's behavior is not coded as the response is not yet complete; only upon completion of the child's behavior would a child response be coded.

An exception is made, however, when the child's behavior is disruptive and occurs across intervals. A yes/no decision can be made for disruptive behavior in each interval. One does not have to wait to code disruptive behavior until the child either fails or succeeds in reaching task criterion, as in the attempt of appropriate tasks. An observer can characterize the child's behavior as being R- in each interval of occurrence of inappropriate behavior.

Another exception is when a timer is used to increase attention span or sustained on-task behavior, stop coding and code the child's behavior as on-task or off-task by placing R+ or Ic at end of timed period. Occasionally, the reinforcing event will extend over time (e.g., eating a gum drop, pounding a peg into a workbench, etc.). Record the appropriate category code as soon as the reinforcer is given. Stop recording until the next antecedent event and the next beep goes off.

11. Whenever the parent completes the modeling process with one task, then the observer should make a heavy dark line (|) at the right-hand edge of the last interval of occurrence. Coding would begin again when the parent models a new activity; coding would start in the next successive interval following the rules provided above.

12. Sometimes the observer will be cued as to the child's R+ or Ic response only by the parent's consequating event (i.e., parent either reinforces or punishes or corrects the child's response). The R+ or Ic can be coded under these circumstances. If for example the mother is working on attention span of short duration, or if the observer cannot see the child's response, then the observer may have to rely solely upon the parent's consequent event to cue recording the child's behavior. If you cannot view the materials the child is working with or see the child's responses, the observer should attempt to reposition himself as unobtrusively as possible in order to view the parent-child interaction.
13. If the "other" parent models (i.e., the parent who does not usually work with the child on the week's prescriptions), stop coding. It is nice when this happens, but it should not be coded and included in the formal data.
14. The home teacher may need to establish or re-establish control with the child before the home teaching process can either begin or continue. In those sessions where special behavior control procedures are used or if the child is unusually tired or uncooperative, the observer may be unable to collect ten minutes of data.

However, if the child is still cooperative and you have not yet obtained 10 minutes of data, you should prompt the home teacher and parent that you would like them to continue with an activity. A simple statement such as "I wonder if you could continue with an activity; I need a little more time," should serve to prompt the home teacher and parent. Be sure to let them know when you have sufficient time and than them.

APPENDIX F

Teaching Young Children

Please state what you would do in the following teaching situations.

1. Before beginning a teaching session with your child, what would you do to get the work area and the child ready for learning. List 2-3 things you must do before you begin teaching your child.
 - a) _____
 - b) _____
 - c) _____

2. How would you go about teaching your child to put together a new puzzle which was a little harder than puzzles he has put together by himself before. Please tell what you would do; describe your plan for teaching.

3. When teaching a young child something new, it is important to break the task into easy-to-learn steps. If the task is too hard, the child will fail and become upset. Let's say you want to teach a child to name a new color, orange. In what order would you teach the following steps. Put numbers (1st, 2nd, 3rd, 4th), to show the order of the steps you would take to reach the Goal: Child names orange without help when asked "What color is this?"

_____ Parent says "orange" and child repeats it.

_____ Child matches orange objects.

_____ Child says "orange" after parent says beginning sound ("That's 'or_ _ _'") as a hint.

_____ Child points to orange object when told to "Show me the orange one."

4. Young children usually need some type of help in learning a new skill. Children need aid to learn to drink from a cup, name body parts, bat a ball, and with most other new activities. Gradually they need less aid as they learn the new skills. What is usually the first aid to give when you begin teaching any new skill?
- _____

5. Mary is learning to draw a square, her mother assists by placing her hand over Mary's hand to help draw the square. Mother wants to gradually reduce the aid she provides until Mary can draw a square without help. What other aids might the mother give as she works with her child on this skill?

a) _____

b) _____

c) _____

5. d) _____
6. Jimmy is working on naming three shapes - $\bigcirc$ $\square$ $\triangle$. His dad holds up the $\triangle$ and asks, "What's this?" When Jim says, "a square," Dad replies, "no, that's not a square! Guess again!"
- a) What is wrong with correcting him in this way? _____

- b) What would be a better way to correct Jimmy? _____

7. Mrs. Smith is beginning to teach her daughter, Susie, to point to big and little objects. She knows that it will be important to let Susie know she has done a good job (reinforce Susie) as she learns the new skill. Mrs. Smith has some Sugar Pops to use as reinforcers when Susie points correctly.
- a) How often should she reinforce Susie when she first begins teaching the skill? _____
- b) How can Mrs. Smith get Susie to work for a reinforcer other than food? _____
- c) After Susie has worked on this skill and is correctly pointing to "big" or "little" most of the time, how often should mom reinforce Susie for the correct response? _____
8. Mrs. Jones has just finished reading several books to her 5 year-old daughter, Amy. A neighbor telephones and, as usual, Amy begins to whine. Her mother stops talking to ask "What's wrong?" When she continues talking Amy's whining gets louder, and Mrs. Jones yells, "I'll spank you if you don't stop it!" Amy then begins to scream which causes her mother to apologize to her neighbor and hang up. Obviously, Amy is trying to get her mother's attention away from the phone call. How should Mrs.

8. (continued)

Jones handle Amy when she whines for attention?

9. You have taught your child many things since he was a baby.

Children learn from household chores, play activities and special learning activities. Name two things you could teach your child from the following activities and materials.

a) Child is playing with plastic storage containers or bowls.

b) Child is playing with doll and doll clothes. _____

c) Child wants to help you do the laundry. _____

APPENDIX G

CREDIT: ____ yes ____ no

ACTIVITY CHART

Child's Name _____

Home Teacher's Name _____

Week of _____

What to Teach:

What to Record:

Directions:

DAYS

WEEKLY PROGRESS REPORT

PARENT COMMENTS:

HOME TEACHER COMMENTS:

ADDITIONAL INFORMATION (Clinic Visits, Formal Staffing, Log Information):

PRESCRIPTION FOR COMING WEEK					
DEV. AREA	ACTIVITY	BEHAVIOR DESCRIPTION	BASELINE	REINFORCEMENT	NEW/CONT.
HOME VISIT ACTIVITY:				BASELINE	CREDIT

APPENDIX H

PARENTAL ATTITUDE CHECKLIST

In front of each item, please place the number from the rating scale which best reflects your feelings or behavior.

- | Rating Scale: | 1 | 2 | 3 | 4 | 5 |
|---------------|---|--------|--------------|-------|--------|
| | Never | Seldom | Occasionally | Often | Always |
| _____ | A. I feel confident in my ability to teach my child new things. | | | | |
| _____ | B. I know what my child is capable of learning without help from professionals. | | | | |
| _____ | C. I become frustrated or upset when my child can't do what I am trying to teach him. | | | | |
| _____ | D. My husband and I agree on how to discipline our child(ren). | | | | |
| _____ | E. I know what rewards my child likes and will work for. | | | | |
| _____ | F. I use play activities to teach my children new things. | | | | |
| _____ | G. I find many materials in the home from which my child can learn. | | | | |
| _____ | H. I feel that parents are the best teachers of their children. | | | | |
| _____ | I. I use everyday, routine activities as an opportunity to teach my child(ren). | | | | |
| _____ | J. I remain calm when I discipline my child. | | | | |
| _____ | K. I need special materials or educational games to teach my child. | | | | |
| _____ | L. I know how to correct my child when he/she makes a mistake when I am teaching him/her something. | | | | |
| _____ | M. My husband helps work on learning activities with our children. | | | | |
| _____ | N. I set aside special time to teach my child(ren). | | | | |
| _____ | O. I feel confident in my ability to discipline my child. | | | | |
| _____ | P. I feel my child is interested in learning. | | | | |
| _____ | Q. My child obeys other people better than he obeys me. | | | | |
| _____ | R. I feel that I will have difficulty helping my child with school. | | | | |
| _____ | S. When my child does what I ask him, I praise or reward him/her. | | | | |
| _____ | T. My child is uncooperative when I try to teach him something. | | | | |
| _____ | U. I become angry when my child does small things to annoy me. | | | | |

APPENDIX I

Please tell how you feel about carrying out the following teaching activities.
Place the number that best reflects your feelings in front of each item.

Rating Scale:

- 1 - The home teacher would have to do this.
- 2 - I can do this if the home teacher first shows me what to do and helps me do it.
- 3 - I can do this with some suggestions given by the home teacher.
- 4 - I can do this alone, but I would still want the home teacher to look at what I've done.
- 5 - I can do this without any help from the teacher.

- _____ A. Select long-range educational goals for my child.
- _____ B. Decide what to teach my child each week.
- _____ C. Set up a working time and place that will help my child learn what I am teaching.
- _____ D. Decide upon the type and amount of aid my child needs to learn a new skill.
- _____ E. Decide upon rewards to give my child when he is correct or behaves the way I like him to.
- _____ F. Decide how to correct my child when he makes a mistake.
- _____ G. Decide what materials to use to teach a new skill.
- _____ H. Decide how to use the materials in teaching the skill.
- _____ I. Decide how to use materials to make the task easier or more difficult.
- _____ J. Decide how many times my child should practice an activity each day.
- _____ K. Decide how well my child must perform an activity to show that he has learned it.
- _____ L. Decide upon a long range goal and break it down into weekly small teaching steps.
- _____ M. Set up a response cost program.
- _____ N. Decide when to move to the next, more difficult step when teaching a new skill.
- _____ O. Plan routine activities to help my child practice the skills he has learned so he won't forget them.
- _____ P. Record baseline information on my child's initial performance of a new skill.
- _____ Q. Record post-baseline information on my child's performance of the skill after instruction.
- _____ R. Set up a system for recording my child's behavior.
- _____ S. Decide upon methods for disciplining my child when he misbehaves.
- _____ T. Write-up an Activity Chart for some future skill which I want to teach my child.
- _____ U. Keep a record of the things my child has learned.
- _____ V. Set up a time out program.